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SOME STAGES OF LOGICAL THOUGHT.

THE man in the street, when asked what he thinks about a certain matter, often replies that he does not think at all; he knows. The suggestion is that thinking is a case of active uncertainty set over against conviction or unquestioning assurance. When he adds that he does not have to think, but knows, the further implication is that thinking, when needed, leads to knowledge; that its purpose or object is to secure stable equilibrium. It is the purpose of this paper to show some of the main stages through which thinking, understood in this way, actually passes in its attempt to reach its most effective working; that is, the maximum of certainty.

I wish to show how a variety of modes of thinking, easily recognizable in the progress of both the race and the individual, may be identified and arranged as successive species of the relationship which doubting bears to assurance; as various ratios, so to speak, which the vigor of doubting bears to mere acquiescence. The presumption is that the function of questioning is one which has continually grown in intensity and range, that doubt is continually chased back, and, being cornered, fights more desperately, and thus clears the ground more thoroughly. Its successive stations or arrests constitute stages of thinking. Or to change the metaphor, just in the degree that what has been accepted as fact—the object of assurance—loses stable equilibrium, the tension involved in the questioning atti-

tude increases, until a readjustment gives a new and less easily shaken equilibrium.

The natural tendency of man is not to press home the doubt, but to cut inquiry as short as possible. The practical man's impatience with theory has become a proverb; it expresses just the feeling that, since the thinking process is of use only in substituting certainty for doubt, any apparent prolongation of it is useless speculation, wasting time and diverting the mind from important issues. To follow the line of least resistance is to cut short the stay in the sphere of doubts and suggestions, and to make the speediest return into the world where one can act. Of course, the likely result is that difficulties are evaded or surmounted rather than really disposed of. Hence, in spite of the opposition of the would-be practical man, the needs of practice, of economy, and efficiency, have themselves compelled a continual deepening of doubt and widening of the area of investigation.

It is within this evolution that we have to find our stages of thinking. The first is where the doubt is barely endured but not entertained; it is no welcome guest but an intruder, to be got rid of as speedily as possible. Development of alternative and competitive suggestions, the forming of suppositions, of ideas, goes but a little way. The mind seizes upon the nearest or most convenient instrument of dismissing doubt and re-attaining security. At the other end is the definitive and conscious search for problems, and the development of elaborate and systematized methods of investigation — the industry and technique of science. Between these limits come processes which have started out upon the path of doubt and inquiry, and then halted by the way.

In the first stage of the journey, ideas are treated as something fixed and static. To those who are using them they are simply another kind of fact. They are used to settle doubts, but the doubts are treated as arising quite outside the ideas themselves. Nothing is further from consciousness than that the ideas themselves are open to doubt, or need criticism and revision. Indeed, the one who uses these static ideas is not even aware that they have originated and been elaborated for the sake of dealing

with conflicts and problems. The ideas are just 'there,' and so may be used like any providential dispensation to help men out of the troubles into which they have extraneously fallen.

Words are generally held responsible for this fixation of the idea, for this substantiation of it into a kind of thing. A long line of critics has made us familiar with the invincible habit "of supposing that wherever there is a name there is some reality corresponding to it"; of supposing that the general and abstract words have their equivalent objects somewhere *in rerum natura*, just as have singular and proper names. We know with what simplicity of self-confidence the English empirical school has accounted for the ontological speculation of Plato. Words tend to fix intellectual contents, and give them a certain air of independence and individuality. That some truth is here expressed there can be no question. Indeed, the attitude of mind of which we are speaking is well illustrated in the person who goes to the dictionary in order to settle some problem in morals, politics, or science; who would end some discussion regarding a material point by learning what meaning is attached to terms by the dictionary as authority. The question is taken as lying outside of the sphere of science or intellectual inquiry, since the meaning of the word—the idea—is unquestionable and fixed.

But this petrifying influence of words is after all only a superficial explanation. There must be some meaning present to the mind or the word could not fix it; there must be something in the psychology of the mind itself which accounts for the disposition to use terms as a medium of fossilization. There is, in truth, a certain real fact—an existent reality—behind both the word and the meaning it stands for. This reality is social usage. The person who consults a dictionary *is* getting an established fact when he turns there for the definition of a term. He finds the sense in which the word is currently used. Social customs are no less real than physical events. It is not possible to dispose of this fact of common usage by reference to mere convention, or any other arbitrary device. A form of social usage is no more an express invention than is any other social institution. It embodies the permanent attitude, the habit taken towards certain

recurring difficulties or problems in experience. Meanings, or ideas as fixed in terms, show the scheme of values which the community uses in appraising matters that need consideration and which are indeterminate or unassured. They are held up as standards for all its members to follow. Here is the solution of the paradox. The fixed or static idea is a fact as expressing an established social attitude, a custom. It is not merely verbal, because it denotes a force which operates, as all customs do, in controlling particular cases. But since it marks a mode of interpretation, a scheme for assigning values, a way of dealing with doubtful cases, it falls within the sphere of ideas.

Turning to social psychology, we find an apt illustration of fixed ideas in the rules prevalent in primitive communities, and which minutely determine all acts in which the community as a whole is felt to have an interest. These rules are facts because they express customs, and carry with them certain sanctions. Their meaning does not cease with their judicial statement or utterance. They are made valid at once in a practical way against the one who departs from them. Yet as rules they are ideas, for they express general ways of defining doubtful matters in experience, and of reëstablishing certainty. For one who has lost himself in a notion of ideas as *merely* psychical and subjective, I know of no better way to appreciate the real significance of an idea than to consider that a social rule is, after all, nothing but a certain way of viewing or interpreting facts, and as such is an idea.

The point that is of special interest to us here, however, is that these ideas are taken as fixed and unquestionable, and that the cases to which they are to apply are regarded as in themselves equally fixed. So far as concerns the attitude of those who employ this sort of ideas, the doubt is simply with reference to what idea should be used in a particular case. Even the Athenian Greeks, for instance, long kept up the form of indicting and trying a tree or implement through which some individual had been killed. There was a rule—a fixed idea—for dealing with all who offended against the community by destroying one of its supporters. The fact that it was an inanimate object, a thing without intention or volition, which had offended, was not

a material circumstance. It made no difference in the case, that is, there was no doubt as to the nature of the fact. It was as fixed as was the rule.

With advance in the complexity of life, however, rules accumulate, and discrimination—that is, a certain degree of inquiring and critical attitude—enters in. It is expressed, however, in seeking from among a collection of fixed ideas just the one to be used, rather than in directing suspicion against any rule or idea as such, or in an attempt to discover or constitute a new one. It is hardly necessary to refer to the development of casuistry, or to the multiplication of distinctions within dogmas, or to the growth of ceremonial law in cumbrous detail, to indicate what the outcome of this logical stage is likely to be. The essential thing is that doubt and inquiry are directed neither at the nature of the intrinsic fact itself, nor at the value of the idea as such, but simply at the mode in which one is attached to the other. Thinking falls outside both fact and idea, and into the sphere of their external connection. It is still a fiction of judicial procedure that there is already in existence some custom or law under which every possible dispute—that is, every doubtful or unassured case—falls, and that the judge only declares the one which is applicable in the particular case. This point of view has tremendously affected the theory of logic in its entire historic development.

One of the chief, perhaps the most important instrumentalities in developing and maintaining fixed ideas is the need of instruction and the way it is given. If ideas were called into play only when doubtful cases actually arise, they could not help retaining a certain amount of vitality and flexibility; but the community always instructs its new members as to its way of disposing of such cases before the latter present themselves. Ideas are proffered, in other words, quite separate from all doubt, and remote from all application, in order to escape future difficulties and the need of thinking. In primitive communities this is the main purport of instruction, and it still remains such to a very considerable degree. There is pre-judgment rather than judgment proper. When the community uses its resources to fix

certain ideas in the mind—that is certain ways of interpreting and regarding experience—ideas are necessarily formulated so as to assume a rigid and independent form. They are doubly removed from the sphere of doubt. The attitude is uncritical and dogmatic in the extreme—so much so that one might question whether it is to be properly designated as a stage of thinking.

In this form ideas become the chief instruments of social conservation. Judicial decision and penal correction are restricted and ineffective methods of maintaining social institutions unchanged, compared with instilling uniform ideas—fixed modes of appraising all social questions and issues. These set ideas thus become the embodiment of the values which any society has realized and intends to perpetuate. The fixation supports them against dissipation through attrition of circumstance, and against destruction through hostile attack. It would be interesting from the side of social psychology to follow out the ways in which such values are put under the protection of the gods and of religious rites, or themselves erected into quasi-divinities—as among the Romans. This, however, would hardly add anything to the logic of the discussion, although it would indicate the importance which may be attached to the fixation of ideas, and the thoroughgoing character of the means used to secure their immobilization.

The historic conserving value of the dogmatic attitude, the point of view which takes ideas as fixed, is not to be ignored. When society has no methods of science for protecting and perpetuating its achieved values, there is practically no other resort than crystallization. Moreover, with any possible scientific progress, some equivalent of the fixed idea must remain. The nearer we get to the needs of action the greater absoluteness must attach to ideas. The necessities of action do not await our convenience. Emergencies continually present themselves where the fixity required for successful activity cannot be attained through the medium of investigation. The only alternative to vacillation, confusion, and futility of action is ascription to the ideas of a positive and secured character, not in strict logic belonging to them.

It is this sort of determination that Hegel seems to have in mind in what he terms *Verstand*—the understanding. "Apart from *Verstand*," he says, "there is no fixity or accuracy in the region either of theory or practice;" and, again, "*Verstand* sticks to fixity of characters and their distinctions from one another; it treats every meaning as having a subsistence of its own." In technical terminology, also, this is what is meant by 'positing' ideas—a certain hardening of meaning.

In recognizing, however, that fixation of intellectual content is a necessary pre-condition of effective action, we must not overlook the modification that comes with the advance of thinking into more critical forms. At the outset, fixity is taken as the rightful possession of the ideas themselves; it belongs to them and is their 'essence.' As the scientific spirit develops, we see that it is we who lend fixity to the ideas, and that this loan is for a purpose to which the meaning of the ideas is accommodated. Fixity ceases to be a matter of intrinsic structure of ideas, and becomes an affair of security in using them. We *take* the idea as if it were fixed, in order to secure the necessary stability of action. The crisis past, the idea drops its borrowed investiture, and reappears as surmise.

When we substitute for ideas, as uniform rules in deciding doubtful cases, a making over of the ideas such as is requisite to make them fit into one another, the quality of thought alters. We may fairly say that we have come into another stage. The idea is now regarded as essentially subject to change, as a manufactured article needing to be made ready for use. To determine the social and psychological conditions of this transition lies beyond my purpose, since I have in mind only a descriptive setting forth of the periods through which, as a matter of fact, thought has passed in the development of the inquiry function, without raising the problem of its 'why' and 'how.' At this point we shall not do more than note that, as the scheduled stock of fixed ideas grows larger, their application to specific questions becomes more difficult, prolonged, and roundabout. There has to be a definite hunting for the specific idea which is appropriate; there has to be comparison of it with other ideas. This comes to involve a

certain amount of mutual compromise and modification before selection is possible. The idea thus gets somewhat shaken. It has to be made over so that it may harmonize with other ideas regarded as possessing equal worth. Often the very accumulation of fixed ideas commands this reconstruction. The dead weight of the material becomes so great that it cannot sustain itself without a readjustment of the center of gravity. Simplification and systemization are required, and these call for reflection. Critical cases come up in which the fiction of an idea or rule already in existence cannot be maintained. It is impossible to conceal that old ideas have to be radically modified before the situation can be dealt with. The friction of circumstance melts away their congealed fixity. Judgment becomes legislative.

Seeking illustrations at large, we find this change typified in Hebrew history, in the growing importance of the prophet over the judge, in the transition from a justification of conduct through bringing particular cases into conformity with existent laws, into that effected by personal right-mindedness enabling the individual to see the law in each case for himself. Profoundly as this changed conception of the relation between law and particular case affected moral life, it did not, among Semites, directly influence the logical sphere. With the Greeks, however, we find a continuous and marked departure from positive declaration of custom. We have assemblies meeting to discuss and dispute, and finally, upon the basis of the ideas thus brought to view, to decide. The man of counsel is set side by side with the man of deed. Odysseus was much experienced, not only because he knew the customs and ways of old, but even more because from the richness of his experience he could make the pregnant suggestion meet the new crisis. It is hardly too much to say that it was the emphasis put by the Greek mind upon discussion—at first as preliminary to decision, and afterwards to legislation—which generated logical theory.

Discussion is thus an apt name for this attitude of thought. It is bringing various ideas together; shaking one against another and the tearing down their rigidity. It is conversation of thoughts; it is dialogue—the mother of dialectic in more than

the etymological sense. No process is more recurrent in history than the transfer of operations first carried on between different persons, into the arena of the individual's own consciousness. The discussion which at first took place by bringing ideas from different persons into contact, by introducing them into the forum of competition and by subjecting them to critical comparison and selective decision, finally became a habit of the individual with himself. He became a miniature social assemblage, in which pros and cons were brought into play struggling for the mastery —for final conclusion. In some such way we conceive reflection to be born.

It is evident that discussion, the agitation of ideas, if judged from the standpoint of the older fixed ideas, is a destructive process. Ideas are not only shaken together and apart, they are so shaken in themselves that their whole validity becomes doubtful. Mind, and not merely ideas, becomes uncertain. The attempt to harmonize different ideas means that in themselves they are discrepant. The search for a conclusion means that accepted ideas are only points of view, and hence personal affairs. Needless to say it was the Sophists who emphasized and generalized this negative aspect—this pre-supposition of loss of assurance, of inconsistency, of subjectivity. They took it as applying not only to this, that, and the other idea, but to ideas as ideas. Since ideas are no longer fixed contents, they are just products of an individual's way of thinking. Lacking inherent value, they merely express the interests that induce the individual to look this way rather than that. They are made by the individual's point of view, and hence will be unmade if he can be led to change his point of view. Where all was fixity, now all is instability: where all was certitude, nothing now exists save personal opinion based on prejudice, interest, or arbitrary choice.

The modern point of view, while condemming sophistry, yet often agrees with it in limiting the reflective attitude as such to self-involution and self-conceit. From Bacon down, the appeal is to observation, to attention to facts, to concern with the external world. The sole genuine guarantee of truth is taken to be appeal to facts, and thinking as such is something quite different.

If reflection is not considered a merely variable matter, at least it is considered as an endless mulling over of things, taking us further and further away from reality into what is merely subjective. It is the futile attempt to spin truth out of one's own inner consciousness. It is introspection, and theorizing, and mere speculation.

Such wholesale depreciation ignores the value inherent even in the most subjective reflection. It takes the settled estate which is proof either that thought is not needed, or that it has done its work, as if it supplied the standard for the occasions in which problems are hard upon us, and doubt is rife. It takes the conditions which come about after and because we have thought, as measuring the conditions which call out the thinking. Whenever we really need to reflect, the point is that we cannot appeal directly to the 'fact'; for the simple reason that the very stimulus to thinking has arisen just because 'facts' have slipped away from us. The fallacy is neatly embodied by Mill in his discussion of Whewell's account of the need of mental conception or hypothesis in 'colligating' facts. He insists both that the conception is "obtained" from the "facts" in which "it exists," is "impressed upon us from without," and that it is the "darkness and confusion" of the facts that makes us want the conception in order to create "light and order."[1] Subjective reflection involves running over various ideas, sorting them out, comparing one with another, trying to get one which will unite into itself the strength of two and avoid their incompatibilities, searching for new points of view and developing new suggestions, guessing, suggesting, selecting and rejecting. The greater the problem, the greater the shock of doubt and consequent confusion and uncertainty, the more prolonged and more necessary is this process of 'mere thinking.' It is a more obvious phase of biology than of physics, of sociology than of chemistry; yet it persists in established sciences. If we take even a mathematical proposition, not *after* it has been demonstrated—and thus capable of statement in adequate logical form—but while still in process of discovery and proof, the operation of this subjective phase is manifest, so much so, indeed,

[1] *Logic*, Bk. IV, ch. ii., § 2.

that a distinguished modern mathematician has said that the paths which the mathematical inquirer traverses in any new field are more akin to those of the experimentalist, and even to those of the poet and artist, than they are to those of the Euclidean geometer.

What makes the essential difference between modern research and the reflection of, say the Greeks, is not the presence or absence of 'mere thinking,' but the conditions for testing the results of the latter, the elaborate system of checks and balances found in the technique of modern experimentation. The thinking process does not now go on endlessly in terms of itself, but seeks outlet through reference to particular experiences. It is tested by this reference; not, however, as if a theory could be tested by directly comparing it with facts—an obvious impossibility—but through use in facilitating commerce with facts. It is tested as glasses are tested; things are looked at through the medium of ideas to see if thereby they assume a more orderly and clearer aspect, if they are less blurred and obscure.

The reaction of the Socratic school against the Sophistic may serve to illustrate the third stage of thinking. This movement was interested not in the *de facto* shaking of received ideas and consequent discrediting of all thinking. It was concerned rather with the virtual appeal to a common denominator involved in bringing different ideas into relation with one another. In their comparison and necessary mutual modification it saw evidence of the presence of an arbiter passing judgment upon their conflict, and revealing a common principle and standard of reference. It dealt not with the shaking and dissolution which were going on, but with the comprehensive permanent idea finally to emerge. Controversy and discussion among different individuals may as a matter of fact result in extending mere doubt, by manifesting the incoherency of accepted ideas, and thus throwing the individual into an attitude of distrust. But it involves also an appeal to a single thought to be accepted by both parties, and thus puts an end to the dispute. It was this appeal to a higher court, this possibility of attaining a total idea, which should bring into relief the agreeing elements in contending thoughts, and banish the incompatible factors, that animated the Socratic search for the

concept, the elaboration of the Platonic hierarchy of ideas in which the higher substantiate the lower, and the Aristotelian exposition of the systematized methods by which general truths may be employed to justify propositions otherwise doubtful. At least this historic development will serve to illustrate what is involved in the transition from the second to the third stage; the transformation of discussion into reasoning, of subjective reflection into method of proof.

Discussion, whether with ourselves or others, goes on by suggestion supplying clues, and as the uppermost interest opens a way here or there. It is discursive and haphazard. This gives it the devious tendency indicated in Plato's remark that it needs to be tied to the post of reason. It needs, that is, to have the ground or basis of its various component statements brought to consciousness in such a way as to define the exact value of each. The Socratic contention is the need of compelling the common denominator, the common subject underlying the diversity of views, to exhibit itself. It alone gives a sure standard by which the claims of all assertions may be measured. Until this need is met, discussion is a self-deceiving play with unjudged, unexamined matters, which, though confused and shifting, yet impose themselves upon us.

We are familiar enough with the theory that the Socratic universal, the Platonic idea, was generated by an ignorant transformation of psychological abstractions into self-existent entities. However strong and finally unresisted may have been this tendency, to insist upon it as the key to the Socratic logic is mere caricature. The objectivity of the universal stood for the sense of something decisive and controlling in all reflection, other than just futile manipulation of personal prejudice. This sense is certainly as active in modern science as it was in the Platonic dialectic. What Socrates felt was the opinionated and conceited quality of the terms used in the moral and political discussion of his day, as contrasted with the assured subject matter, which, if rightly grasped, would put an end to merely personal views and argumentation.

By Aristotle's time the interest was not so much in the exis-

tence of standards of decision in cases of doubt and dispute as it was in the technique of their use. The judge was firmly seated on the bench. The parties in controversy had recognized his jurisdiction, and their respective claims were submitted for adjudicature. The need then was for rules of procedure by which the judge might, in an obvious and impartial way, bring the recognized universal or decisive law to bear upon particular matters. Hence the elaboration of those rules of evidence, those canons of demonstrative force, which are the backbone of the Aristotelian logic. There was a code by which to decide upon the admissibility and value of proffered testimony—the rules of the syllogism. The figures and terms of the syllogism provided a scheme for deciding upon the exact bearing of every statement propounded. The plan of arrangement of major and minor premises, of major, minor, and middle terms, furnished a manifesto of the exact procedure to be followed in determining the proving force of each element in reasoning. The judge knew what testimony to permit, when and how it should be introduced, how it could be impeached or have its competence lessened, and how the evidence was to be arranged so that its summary would also be an exhibit of its value in establishing the conclusion. Hence the possibility of forming a scheme for defining the exact mode of credibility attaching to any proposition.

This means that we have now a distinctive type of thinking quite marked off from mere discussion and reflection. It may be called either reasoning or proof. It is reasoning when we think of the regularity of the method for getting at and employing the unquestioned grounds which give validity to other statements. It is proof as regards the degree of logical desert thereby measured out to such propositions. Proof is the acceptance or rejection justified through the reasoning. To quote from Mill: "To give credence to a proposition as a conclusion from something else is to reason in the most extensive sense of the term. We say of a fact or statement, it is proved, when we believe its truth by reason of some other fact or statement from which it is said to follow."[1] Reasoning is marshall-

[1] *Logic*, Bk. II, ch. I, § 1. I have changed the order of the sentences quoted, and have omitted some phrases.

ing a series of terms and propositions until we can bind some doubtful fact firmly to an unquestioned, although remote truth; it is the regular way in which a certain proposition is brought to bear on a precarious one, clothing the latter with something of the peremptory quality of the former. So far as we reach this result, and so far as we can exhibit each step in the nexus and be sure it has been rightly performed, we have proof.

But questions still face us. How about that truth upon which we fall back as guaranteeing the credibility of other statements —how about our major premise? Whence does it derive its guarantee? *Quis custodes custodiet?*

We may, of course, in turn subsume it under some further major premise, but an infinite regress is impossible, and on this track we are finally left hanging in the air. For practical purposes, the unquestioned principle may be taken as signifying mutual concession or agreement—it denotes that as a matter of fact its truth is not called in question by the parties concerned. This does admirably for settling arguments and controversies. It is a good way of amicably arranging matters among those already friends and fellow citizens. But scientifically, the widespread acceptance of an idea seems to testify to custom rather than to truth; prejudice is strengthened in influence, but hardly in value, by the number who share it; conceit is none the less self-conceit because it turns the heads of many.

Great interest was indeed soon taken in the question of the range of persons who hold truths in common. The *quod semper ubique, omnibus*, became of great importance. This, however, was not, in theory at least, because common agreement was supposed to constitute the major premise, but because it afforded confirmatory evidence of its self-evident and universal character.

Hence the Aristotelian logic necessarily assumes certain first or fundamental truths unquestioned and unquestionable, self-evident and self-evidencing, neither established nor modified by thought, but standing firm in their own right. This assumption is not, as modern dealers in formal logic would sometimes have it, an external psychological or metaphysical attachment to the theory of reasoning, to be omitted at will from logic as such.

Without such truths we are still in the bonds of uncertainty. We are still within the play of subjective, arbitrary, futile opinion. *Judgment* has not taken place, and assertion is still without warrant. Hence the scheduling of first truths is an organic part of any theory of reasoning which is occupied with securing surety of assent, or valid conviction. To deny the necessary place of ultimate truths in the logical system of Aristotle and his followers, is to make them not philosophers, but players in a game of social convention. It is to overlook, to invert, the fact that they were sincerely concerned with the question of attaining the grounds and process of assurance in cases of doubt. Hence they were obliged to assume primary intuitions, metaphysical, physical, moral, and mathematical axioms, in order to get the pegs of certainty to which to tie their bundles of otherwise contingent propositions.

It would be going too far to claim that the regard for the authority of the church, of the fathers, of the scriptures, of ancient writers, of Aristotle himself, so characteristic of the Middle Ages, was the direct outcome of this pre-supposition of truths fixed and unquestionable in themselves. But the logical connection is sure. The supply of absolute premises that Aristotle was able to proffer was decidedly scant. In his own generation and situation this paucity made comparatively little difference; for to the mass of men the great bulk of values was still carried by custom, by religious belief, and social institution. It was only in the comparatively small sphere of persons who had come under the philosophic influence, that the need of the logical mode of confirmation was felt. In the mediæval period, however, customs were dissipated through their mutual clash, and hence ideas required to be concentrated by some fixed principle giving them stay and power. The situation was exactly such as to call into active use the Aristotelian scheme of thought. Authority compensated for the meagerness of the store of universals known by direct intuition, and the Aristotelian plan of reasoning afforded the precise instrumentality through which the vague and chaotic details of life could be reduced to order by subjecting them to the terms of authoritative rules.

It is not enough, however, to account for the ultimate major premises, for the unconditioned grounds upon which credibility is assigned. We have also to report where the other side comes from: matters so uncertain in themselves as to require having their grounds supplied from outside. The answer in the Aristotelian scheme is an obvious one. It is the very nature of sense, of ordinary experience, to supply us with matters which in themselves are only contingent, unstable and divagating. The doubt attaching to them is in no sense a result of the thinking process; it does not arise organically within the latter, but is rather its external precondition. There is a certain portion of the intellectual sphere, that derived from experience, which is infected throughout because of its unworthy origin. In itself it stands forever condemned to be merely empirical—particular, more or less accidental, inherently irrational. You cannot make gold from dross, and the best that can be done for and with material of this sort is to bring it under the protection of truth which has warrant and weight in itself.

We may now characterize this stage of thinking with reference to our original remark that different stages denote various degrees of the evolution of the doubt-inquiry function. As compared with the period of fixed ideas, doubt is awake, and inquiry is active but in itself, it is rigidly limited. On one side it is bounded by the fixed ultimate truths, whose very nature is that they cannot be doubted, that they are not products or functions in inquiry, but bases that investigation fortunately hits upon. In the other direction doubt is itself arrested. All 'matters of fact,' all 'empirical truths' belong to a particular sphere or kind of existence, and one intrinsically open to suspicion. The region is condemned in a wholesale way. In itself it exhales doubt; it cannot be reformed; it is to be shunned, or, if this is not possible, to be escaped from by climbing up a ladder of intermediate terms until we lay hold on the universal. The very way in which doubt is fixed, taken all in a piece, marks its lack of vitality. It is objectified, and thereby arrested and cooped up in a particular place. As with any doubtful character, the less had of its company the better. Uucertainty is not realized as a

necessary instrument in compelling experienced matters to reveal their own meaning and inherent order.

This limitation upon inquiry settles the interpretation of thought possible at this stage—it is of necessity merely connective, merely mediating. It goes between the first principles—themselves, as to their validity, outside the province of thought—and the particulars of sense—also, as to their status and worth, beyond the dominion of thought. Thinking is subsumption—just placing a particular proposition under its universal. It is inclusion, finding a place for some questioned matter within a region taken as more certain. It is use of general truths to afford support to those otherwise shaky—an application, however, that improves their standing, while leaving their content quite unchanged. This means that thought has only a formal value. It is of service in exhibiting and arranging grounds upon which any particular proposition may be acquitted or condemned, upon which it may be assented to, or upon which belief may reasonably be withheld.

The metaphor of the law court is apt. There is assumed some matter to be either proved or disproved. As matter, as content, it is furnished. It is not to be found out. In the law court it is not a question of discovering what a man is, but simply of finding reasons for regarding him as guilty or innocent. It is not an all-around play of thought directed to the institution of something as fact, but just a question of whether grounds can be adduced justifying acceptance of a proposition already set forth. The significance of such an attitude comes into relief when we contrast it with what is done in the laboratory. In the laboratory there is no question of proving that things are just thus and so, or that we must accept or reject a given statement; there is simply an interest in finding out what sort of things it is that we are dealing with. Any quality or change that presents itself may be an object of investigation, or may suggest a conclusion, since it is judged, not by reference to preëxistent truths, but by its suggestiveness of what it may lead to, and thus the mind is open to inquiry in any direction. Or we may illustrate by the difference between the auditor and the expert in an insurance company. One simply passes and rejects, issues vouchers,

compares and balances statements already made out. The other investigates any one of the items of expense or receipt; inquires how it comes to be what it is, what facts, as regards say length of life, condition of money market, activity of agents, are involved, and what further researches and activities are thereby indicated.

The illustrations of the laboratory and the expert remind us of another attitude of thought in which investigation attacks matters hitherto reserved. The growth, for example, of freedom of thought during the Renaissance was a revelation of the intrinsic momentum of the thought-process itself. It was not a mere reaction from and against mediæval scholasticism. It was the continued operation of the machinery which the scholastics had set a-going. Doubt and inquiry were extended into the region of particulars, of matters of fact, with the view of reconstituting them through discovery of their own structure, no longer with the intention of leaving that unchanged, while transforming their claims to credence. Thought no longer found satisfaction in appraising them in a scale of values according to their nearness to, or remoteness from, fixed truths. Such work had been done to a nicety, and it was futile to repeat it. Thinking must find a new outlet. It was out of employment, and set to discover new lands. Galileo and Copernicus were travelers—as much so as the crusader, Marco Polo, and Columbus.

Hence the fourth stage—covering what is popularly known as inductive and empirical science. Thought takes the form of inference instead of proof. Proof, as we have already seen, is accepting or rejecting a given proposition on the ground of its connection or lack of connection with some other proposition conceded or established. But inference does not terminate in any given proposition; it is after precisely those which are not given. It wants more facts, different facts. Thinking in the mode of inference insists upon terminating in an intellectual advance, in a consciousness of truths hitherto escaping us. Our thinking must not now 'pass' certain propositions after challenging them, must not admit them because they exhibit certain credentials, showing a right to be received into the upper circle of intellectual society.

Thinking endeavors to compel facts, as they present themselves, to yield up something hitherto obscure or concealed. This advance and extension of knowledge through thinking seems to be well designated by the term inference. It does not certify what is otherwise doubtful, but 'goes from the known to the unknown.' It aims at pushing out the frontiers of knowledge, not with marking those already attained with sign posts. Its technique is not a scheme for assigning status to ideas already possessed, but a method for making friends with facts and ideas hitherto alien. Inference reaches out, fills in gaps. Its work is measured not by the patents of standing it issues, but by the material increments of knowledge it yields. *Inventio* is more important than *judicium*, discovery than 'proof.'

With the development of empirical research, uncertainty or contingency is no longer regarded as infecting in a wholesale way an entire region, discrediting it save as it can be brought under the protecting ægis of universal truths as major premises. Uncertainty is now a matter of detail. It is the question whether the particular fact is really what it has been taken to be. It involves contrast, not of a fact as a fixed particular over against some equally fixed universal, but of the existing mode of apprehension with another possible and better apprehension.

From the standpoint of reasoning and proof, the intellectual field is absolutely measured out. Certainty is located in one part, intellectual indeterminateness or uncertainty in another. But when thinking becomes research, when the doubt-inquiry function comes to its own, the problem is just: What is the fact?

Hence the extreme interest in details as such; in observing, collecting, and comparing particular causes, in analysis of structure down to its constituent elements, interest in atoms, cells, and in all matters of arrangement in space and time. The microscope, telescope, and spectroscope, the scalpel and microtome, the kymograph and the camera, are not mere material appendages to thinking; they are as integral parts of investigative thought as were *Barbara*, *Celarent*, etc., of the logic of reasoning. Facts must be discovered, and to effect this the apparent facts must be resolved into their elements. Things must be readjusted

in order to be held free from all intrusion of impertinent circumstance and misleading suggestion. Instrumentalities of extending and rectifying research are, therefore, of themselves organs of thinking. The specialization of the sciences, the almost daily birth of a new science, is also a logical necessity—not a mere historical episode. Every phase of experience must be investigated, and each characteristic aspect presents its own peculiar problems which demand, therefore, their own technique of investigation. The discovery of difficulties, the substitution of doubt for quiescent acceptance, are more important than the sanctioning of belief through proof. Hence the importance of noting apparent exceptions, negative instances, extreme cases, anomalies. The interest is in the discrepant because that stimulates inquiry, rather than in the fixed universal which would terminate it once for all. Hence also the roaming over the earth and through the skies for new facts which may be incompatible with old theories, and suggest new points of view.

To illustrate these matters in detail would be to write the history of every modern science. The interest in multiplying phenomena, in increasing the area of facts, in developing new distinctions of quantity, structure, and form, is obviously characteristic of modern science. But we do not always heed its logical significance—that it makes thinking consist in the extension and control of contact with new material so as to lead regularly to the development of new experience.

The elevation of the region of facts—the formerly condemned region of the inherently contingent and variable—to something that invites and rewards inquiry, defines the import, therefore, of the larger aspects of modern science. This spirit prides itself upon being positivistic—it deals with the observed and the observable. It will have naught to do with ideas that cannot verify themselves by showing themselves *in propia persona*. It is not enough to present credentials from more sovereign truths. These are hardly acceptable even as letters of introduction. Refutation of Newton's claim, that he did not make hypotheses, by pointing out that no one was busier in this direction than he, and that generally scientific power is in direct ratio to ability to imagine pos-

sibilities, is as easy as it is irrelevant. The hypotheses, the thoughts, that Newton employed, were of and about fact; they were for the sake of exacting and extending what can be apprehended. Instead of being sacrosanct truths affording a redemption by grace to facts otherwise ambiguous, they were the articulating of ordinary facts. The notion of law changes. It is no longer something of superior kind governing things and events, it is the statement of their own order.

Thus the exiling of occult forces and qualities is not so much a specific achievement as it is a demand of the changed attitude of thought. When thinking consists in the detection and determination of observable detail, then forces, forms, qualities at large, are thrown out of employment. They are not so much proved non-existent as rendered nugatory. Disuse breeds degeneration. Their service is dependent upon the assumption of fixed universals as real essences; since their business is the ceremony of bringing these essences down into facts, the universal becomes the established order of the facts themselves, and then the mediating machinery disappears along with the essences. There is substituted for the hierarchical world, in which each degree in the scale has its righteousness imputed from above, a world homogeneous in structure and in the scheme of its parts; the same in heaven, earth, and the uttermost parts of the sea. The ladder of values from the sublunary world with its rectilinear extravagant, imperfect motion up to the stellar universe, with its self-returning perfect order, corresponded to the middle terms of the older logic. The steps are graduated, ascending from the indeterminate, unassured matter of sense up to the eternal, unquestionable truths of rational perception. But when interest is occupied in finding out what anything and everything is, any fact is just as good as its fellow. The observable world is a democracy. The difference which makes a fact what it is, is not an exclusive distinction, but a matter of position and quantity, an affair of locality and aggregation, traits which place all facts upon the same level, since all other observable facts also possess them, and are, indeed, conjointly responsible for them. Laws cannot be edicts of a sovereign binding a world of subjects otherwise

lawless; they are the agreements, the compacts of facts themselves, or, in the familiar language of Mill, the common attributes, the resemblances.

The emphasis of modern science upon control of experience flows from the same source. Interest is in the new, in extension, in discovery. Inference is the advance into the unknown, the use of the established to win new worlds from the void. This requires and employs regulation—that is method—in procedure. There cannot be a blind attack. A plan of campaign is needed. Hence the so-called practical applications of science, the Baconian "knowledge is power," the Comteian "science is prevision," are not extra-logical addenda or supererogatory benefits. They are intrinsic to the logical method itself, for that is just the orderly way of approaching new experiences so as to grasp and hold them.

The attitude of research is necessarily towards the future. The application of science to the practical affairs of life, as in the stationary engine, or telephone, does not differ in principle from the determination of wave-lengths of light through the experimental control of the laboratory. Science lives only in arranging for new contacts, new insights. The school of Kant agrees with that of Mill in asserting that judgment must, in order to be judgment, be synthetic or instructive; it must extend, inform, and purvey. When we recognize that this service of judgment in effecting growth of experience is not accidental, but that judgment means exactly the device and use of instrumentalities for this end, we also remark that the so-called practical uses of science are only the further and freer play of the intrinsic movement of thought itself.

We began with the assumption that thought is to be interpreted as a doubt-inquiry function, conducted for the purpose of arriving at that mental equilibrium known as assurance or knowledge. We assumed that various stages of thinking could be marked out according to the amount of play which they gave to doubt, and the consequent sincerity with which thinking was identified with free inquiry. Modern scientific procedure, as just set forth, seems to define the ideal or limit of this process. It is in-

quiry emancipated, universalized, whose sole aim and criterion is discovery, and hence it makes the terminus of our description. It is idle to conceal from ourselves, however, that this scientific procedure, as a practical undertaking, has not as yet reflected itself into any coherent and generally accepted theory of thinking, into any accepted doctrine of logic which is comparable to the Aristotelian. Kant's conviction that logic is a "complete and settled" science, that with absolutely "certain boundaries it has gained nothing and lost nothing since Aristotle," is startingly contradicted by the existing state of discussion of logical doctrine. The simple fact of the case is that there are at least three rival theories on the ground, each claiming to furnish the sole proper interpretation of the actual procedure of thought.

The Aristotelian logic is far from having withdrawn its claim. It still offers its frame-work as that into which the merely 'empirical' results of observation and experimental inquiry must be fitted if they are to be regarded as really 'proved.' Another school of logicians, starting professedly from modern psychology, discredits the whole traditional industry, and reverses the Aristotelian theory of validity; it holds that only particular facts are self-supporting, and that the authority allowed to general principles is derivative and second hand. A third school of philosophy claims, by analysis of science and experience, to justify the conclusion that the universe itself is a construction of thought, giving evidence throughout of the pervasive and constitutive action of reason; and holds, consequently, that our logical processes are simply the reading off or coming to consciousness of the inherently rational structure already possessed by the universe in virtue of the presence within it of this pervasive and constitutive action of thought. It thus denies both the claim of the traditional logic, that matters of experienced fact are mere particulars having their rationality in an external ground, and the claim of the empirical logic, that thought is just a subjective gymnastic by which we vault from one presented fact to another remote in space and time.

Which of the three doctrines is to be regarded as the legitimate exponent of the procedure of thought manifested in modern sci-

ence? While the Aristotelian logic is willing to waive a claim to be regarded as expounder of the actual procedure, it still insists upon its right to be regarded as the sole ultimate umpire of the validity, or *proved* character of the results reached. But the empirical and transcendental logics stand face to face as rivals, each asserting that it alone tells the story of what science does and how it does it.

With the consciousness of this conflict, discussion in its present, or descriptive, phase must cease. Its close, however, suggests a further question. In so far as we adopt the conception that thinking is itself a doubt-inquiry process, must we not deny alike the claims of all three doctrines to be the articulate voice of the methods of experimental science? Do they not all agree in setting up something fixed outside inquiry, at once supplying its material and its limit? That the first principle and the empirical matters of fact of the Aristotelian logic fall outside the thinking process, and condemn the latter to a purely external and go-between agency, has been already sufficiently descanted upon. But it is also true that the fixed particulars, given facts, or sensations—whatever the empirical logician starts from—are ready-made material given to the thought process, and, therefore, that they externally limit inquiry, instead of being distinctions arising within and because of investigation or search for truth. Nor, as regards this point, is the transcendental in any position to throw stones at the empirical logic. Thought in itself is so far from a process of doubt or inquiry that it is the eternal, fixed structure of the universe; *our* thinking, involving doubt and investigation, is due wholly to our 'finite,' imperfect character, which condemns us to the task of merely imitating and reinstating 'thought' in itself, once and forever complete, ready-made, fixed. It is *per accidens* an object of inquiry, but not its organic content.

The practical procedure and practical assumptions of modern experimental science, since they make thinking essentially and not merely accidentally a process of discovery, seem irreconcilable with both the empirical and transcendental interpretations. At all events, there is here sufficient discrepancy to give occasion

for further search: Does not an account or theory of thinking, basing itself on modern scientific procedure, demand a statement in which all the distinctions and terms of thought—judgment, concept, inference, subject, predicate and copula of judgment, etc. *ad indefinitum*—shall be interpreted simply and entirely as distinctive functions or divisions of labor within the doubt-inquiry process?

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PSYCHOLOGY AS SCIENCE OF SELVES.

TO the present confusion of even the primary conceptions of psychology much obscure teaching and many futile controversies are due. This essay attempts to mediate between opposing theories, by insisting on the equal validity of two underlying forms of psychology, and by tracing sharply the larger outlines of one of these divisions.[1] The first of them may perhaps be named 'Atomistic Psychology.'[2] It treats of contents-of-consciousness as such, that is, of psychic phenomena, considered without reference to any self, and its primary procedure is the analysis of these psychic facts into irreducible elements and the classification of complex phenomena according to the preponderance of given elements. For the second of these ultimate forms of psychology I have vainly sought a satisfactory name. It is distinct from the science of the bare psychic contents, and has been variously regarded as a study of conscious functions, of mental operations and of activities of the self. Most simply, and with adequate recognition of the profoundly social nature of the self, this form of psychology may be treated as the science of conscious selves. It distinguishes these, first, as they refer to things and feelings[3] or to other selves, and, second, as they refer to different kinds of self, myself or my fellow, in different relations. And though analysis into elements is possible in both sorts of study, it is significant that the methods of atomistic psychology are of secondary importance in the science of selves.

The validity of a psychology of the sort first outlined, a structural science of contents-of-consciousness, is very generally admit-

[1] Cf. M. W. Calkins, Elements of Conscious Complexes, PSYCHOLOGICAL REVIEW, VII, 4, p. 377.

[2] The term 'atomistic' is used in a figurative sense and implies neither philosophic materialism nor psychological associationism (on the ordinary view of it). This conception of 'atomistic' psychology is indeed in its underlying principles that of Titchener's 'Structural Psychology' (PHILOSOPHICAL REVIEW, VII, 5) and Bradley's Phenomenalism in Psychology (MIND, Jan., 1900).

[3] This term is occasionally used throughout this paper as the indispensable though equivocal synonym for the awkward expression 'content-of-consciousness,' or for the German 'Vorstellung.'

ted, even by those who question either its adequacy or its utility, and who limit severely the scope of its application. They none the less grant the bare possibility that conscious experiences may be studied, without an explicit reference to selves, as mere analyzable phenomena. The upholders of this structural method, on the other hand, deny the right of the science of selves to the very name psychology. Some of them go so far as to challenge its claim to be enrolled among the sciences. Such a study of the relations of selves, they say, may be sociological and ethical, or may be philosophical, but has no part nor lot with psychological science.

With this issue the present paper is mainly concerned. It aims to show the possibility of such a psychology of selves by considering, in the first place, the essential distinction between philosophy and science. This difference may be stated in somewhat the following fashion: Science is an investigation of facts; philosophy is an attempt to study the self-dependent whole-of-reality. These bare statements will gain in significance by a closer scrutiny of the meaning of 'fact.' The word is used as synonym for the more technical term 'phenomenon,' and the 'fact' or 'phenomenon' is considered as possessing the following characteristics: (1) it is one-of-many; (2) always a dependent bit of reality, never the self-dependent or the whole; (3) it is taken for granted or assumed, without question of the nature of its reality or of its own relation to the whole-of-reality. It follows from this last criterion that sciences are more or less fundamental in the degree in which they take their facts for granted, so that chemistry, for instance, is a more fundamental science than physiology, because it has analyzed protoplasm into elements; and yet the most fundamental of sciences does not become philosophy until it ceases to deal with the related manifold of fact, and attains the conception of a self-dependent reality.

Qualities, things, moments, and events are readily admitted to be 'facts,' and careful reflection will show that selves also may be treated as facts for science. This implies that they are taken for granted, without inquiry about their bearing on 'reality,' and also that they are critically observed and classified, on the basis

of their relation with each other and with facts of every other order. It is clear, however, that this scientific study does not stand in the way of a philosophy of selves. One might as well suggest that the physical sciences prevent the cosmological discussion of nature! Indeed, the scientific study of selves is consistent with any form of philosophy. Selves may be regarded from the dualistic point of view as a form of reality coördinate with matter; or, from the standpoint of pluralistic idealism, the inter-related system of selves may be treated as the final reality; or, finally, in terms of absolute idealism, reality may be conceived of as an absolute self, and the individual selves may be thought as related, by virtue of their manifestation of this Absolute. Yet no one of these metaphysical systems precludes the scientific treatment of selves, that is, the study of selves without reference to any form of ultimate reality. In truth, if one admit, as one must, that 'selves' are as obvious a category as 'things' in every-day experience, then a science of selves must be possible, for science is distinguished from the unreflective consciousness only by its critical and systematic method, so that every object of ordinary observation is *ipso facto* an object for science.

Chronologically preceding the distinction of selves from all other facts, inner or outer, there is undoubtedly an early undifferentiated stage of experience, in which neither self nor feeling nor thing is recognized as such. Gradually, by methods at which we can only roughly guess, through interest in the peculiarly fascinating experiences which we later associate with people, and through imitation, at first unconscious and then reflected upon, there occurs an intermediate stage in the development of consciousness, in which this inchoate, undistinguished experience is replaced by a consciousness of oneself in close connection with other selves. With the hypothetical details of this development we are not here concerned; they have been marked out with rich suggestiveness by Professor Baldwin[1] and by Professor Royce.[2] It is significant, however, that this recognition of oneself as related to other selves probably precedes and certainly

[1] *Social and Ethical Interpretations*, ch. 1. *Mental Development in Child and Race*, pp. 334 ff.

[2] *Studies of Good and Evil.*

does not follow, the distinction between selves and all other facts, psychic or physical. In other words, the distinctions of conscious content, and of physical things from oneself, are less simple and less primitive than the contrast between oneself and one's fellow. Moreover, the psychic and physical events and the physical things are unquestionably subordinate to the selves, being indeed fairly described as facts-for-a-self.

It thus appears that the term 'psychology,' if used in both the senses suggested, does cover the study of phenomena of two different orders: a study on the one hand of 'selves,' the more fundamental facts, and on the other hand of conscious contents, facts *for* these same selves and distinctly subordinate to them. This double use of the term 'psychology' may nevertheless be justified by the suggestion of an important contrast between physical things and psychic contents, which indicates the close connection of the contents-of-consciousness with the self. The intimate nature of this difference is reducible to this, that the physical fact is supposed to be common to all selves, to be shared by the self with his fellows, whereas the psychic fact is regarded as private, unshared and less readily communicable. This burglar, for instance, is a common object for my fellow and for me, though my own particular view of him, and my own overpowering fear of him, are exclusively my own, and distinct from his corresponding percept or feeling. We need not pause to ask in what sense experiences may be shared; we may even question the possibility of an object really 'common' to several observers. These, however, are metaphysical problems, and the universal assumption of the shared experience, whether or not it is founded on reality, is enough for the purposes of psychological classification. From its attribute of being a common object of consciousness has followed the every-day inference that the physical fact is independent of the self, and thus 'external' to it, whereas the psychic fact, unshared and closely connected with the individual self, is not subjected to this externalizing process. Thus the study of psychic contents, no less than the scientific study of selves, is fairly opposed to the physical sciences. For though physical phenomena are really common facts for many selves, they are con-

stantly conceived as external to the self and their really ideal nature is unnoticed.

We have thus two main classes of facts: selves and facts-for-selves; and the latter group divides into two again, the private facts or contents of consciousness, and the shared facts, events or things. Corresponding with these divisions we have two categories of science: (1) the science of the self and of facts referred to the self, psychology; and (2) the physical sciences of facts regarded as independent of the self. The following table shows this more clearly:

Sciences:	Facts (Phenomena):		Sciences:
'*Self-Psychology.*'	I. Selves.		
	II. Facts for Selves.		
'*Atomistic Psychology.*'	*a.* Contents of Consciousness.	*b.* Physical Things and Events.	*Physical Sciences.*

There is still another contrast between atomistic psychology, or the science of psychic contents, and psychology, as the science of conscious selves. It is parallel with a distinction to be made in the domain of the physical sciences. Physical facts include, first, events and moments, marked by an irrevocableness and an entire lack of permanence, and connected by the irreversible relations of time and causality; and, second, things and mathematical quantities, possessing self-identity and permanence, and related in a necessary connection of reciprocal and reversible determination.[1] Thus, strictly speaking, only an event and never a thing is a cause, and, on the other hand, every thing or quantity affects and is affected by every other. In the same sense, contents of consciousness, of which atomistic psychology treats, are irrevocable events, temporally and causally connected with each other in an irreversible succession. Selves, on the contrary, possessing a certain identity or permanence, are not regarded from the temporal standpoint as causally related to each other.

II.

This wide divergence in method between the analytic study of contents-of-consciousness, and the science of consciousness, whose

[1] Cf. an essay by the writer, *Time as Related to Causality and to Space.* MIND, VIII, N. S. No. 30, April, 1899.

"primary interest is . . . to understand . . . not to analyze into elements," is enforced with precision and with rich illustration in Münsterberg's chapter on "Psychology and History."[1] But Professor Münsterberg applies the name 'psychology' to the analytic science exclusively, and designates as 'history' what we have regarded as the psychology of selves. His argument lays stress on the definite advantage of distinguishing in name such diverse methods of study.

In briefest outline Münsterberg's position is the following: Psychology, like physics, is an analytic and causal science which deals with 'objects'; but these objects are 'individual' whereas those of physics are 'over-individual.' There is, however, a group of sciences which study in an anti-causal manner subjective attitudes or the 'real subject'; and these, also, are so differentiated that history "deals with the real subjective will-acts,"[2] in so far as they are 'individual,' whereas the normative sciences treat of 'over-individual' will-acts, that is, of duties, of ideals, and of truths.

In contrasting this theory of the nature of psychology with that of the present paper, it is important in the first place to emphasize their points of agreement. Both distinguish the study of selves from metaphysics, and real experience from the scientific study of experience.[3] Both accentuate the difference between an analytic and causal study of contents of consciousness, and, opposed to this, a science, called by the one theory a study of 'subjective acts of will,' and by the other a study of selves, but admitted by both as a science which is not essentially 'causal.' At this point the theories diverge in that Münsterberg denies, as has been stated, the name 'psychology' to the second form of study, treating it instead as 'history.'

There are certainly objections to this terminology which are worthy of consideration. The first is the argument from tradition: Professor Münsterberg virtually excludes from psychology discussions and systems which from time immemorial have been known as 'psychological.' The older forms of the so-called

[1] *Psychology and Life* (and PSYCHOLOGICAL REVIEW, VI, 1).
[2] *Ibid.*, pp. 225 ff.
[3] *Ibid.*, pp. 200 ff.

'faculty psychology' are metaphysically-tinged dissertations on what is often at heart a psychology of the self; and—passing to modern times—such systematic works as Höffding's, Brentano's, and Stout's, like the genetic psychology of Baldwin's later books, and like Royce's discussions of the social consciousness, would, if strict judgment were meted out to them, be despoiled of the title psychology. Professor Münsterberg really admits this in regretful allusions to pseudo-psychology.

A second objection to Münsterberg's definition is the degree to which it overstrains the ordinary meaning of 'history.' He is entirely right, of course, in rejecting the distinction between psychology as 'nomothetic,'[1] as science of 'general facts,' and history as 'idiographic,' for both, as he shows, treat of single facts, but lead by way of these to generalizations. But history differs from the study of selves, or of subjective will-attitudes, in two important particulars: first, in so far as it takes the temporal point of view; second, and more fundamentally, because it deals with the deeds of selves, that is, with externalized acts of will, with wars and migrations, inventions and industries. History, therefore, is not a simple science at all. It is like the temporal form of physical sciences, in that it treats of causally connected actions and events, and it is also like the science of selves, and goes beyond the physical sciences, in that it discusses these outward things and happenings as manifestations of the inter-related selves. It is distinguished from psychology in either of its forms, because it takes account neither of mere percepts, feelings and the like, abstracted from external acts, nor of selves as selves, apart from their deeds.

Up to this point, however, the questions at issue are mainly verbal and concern only the meaning of Münsterberg's terms, 'psychology' and 'history.' A far more serious difficulty is involved in his opposition of 'reality,' the whole reality, as material of history, to the 'remodelings of reality,' with which psychology deals. His position, in brief, is this: The subjective will-attitudes of which history treats are real. For that reason, indeed, they are never 'understood' but are merely 'appreciated';

[1] *Op. cit.*, p. 186 ff.

they are "not objects which we perceive . . . but we acknowledge them . . . as subjects."[1] On the other hand, psychology has to do with artificial and abstract 'constructions,' or 'objects,' and has therefore "left reality behind." The significance of this theory lies in the vigorous idealism of its teaching that "subjective acts of will and objects of will form the reality, the whole reality,"[1] and in the force of its antithesis between science and reality, "the immediate experience which we live through."[2] The error of the theory is its assumption that history, any more than psychology, has to do with immediate reality. Indeed, Münsterberg himself has virtually corrected this conclusion by the assertion: "Reality is neither art nor science, but life."[3] Scientific study is always, indeed, reflective observation and is never immediate experience. The material of science is always, therefore, a remodeling of reality, even if the science is 'history' and its facts 'subjective will-attitudes' or 'selves.' It is true that the self-as-fact-for-science is a less artificial and secondary construction than the mere content of consciousness, but none the less it is itself 'unreal,' in the sense that it is a 'remodeled' form of the intimately real immediate experience.

III.

An inevitable corollary of this doctrine of two distinct and valid forms of psychology, is the truth that every conscious experience may be studied after two different fashions. It may, in the first place, be dissected by the structural psychologist and described as a complex of elements. These will be not only 'sensational' and 'affective' but 'transitional' elements as well, that is, they will include, not merely hues and sounds, pleasantness and unpleasantness, but 'feelings' of likeness and difference, of 'and' and 'but' and 'more.'[4] The emotion, for instance, is, on this basis, distinguished from the percept, *not* because it is referred to a self, but because affections are its most significant

[1] *Op. cit.*, p. 198.
[2] *Op. cit.*, p. 196.
[3] *Op. cit.*, p. 200; cf. E. Thorndike, PSY. REV.
[4] Cf. James, *Principles of Psychology*, I, p. 243; M. W. Calkins, PSYC. REV., VII, 4, p. 384.

constituent. The concept is not a result of the mind's comparing activity, but a complex distinguished by the 'transitional' feeling of likeness.

But there is still another way of treating these psychic facts and all others. Instead of regarding them as mere contents-of-consciousness, abstracted as far as possible from the selves for whom they are facts, we may frankly acknowledge them as experiences of these selves, no longer speaking of 'percepts,' 'emotions,' and 'volitions,' but rather of 'perception,' of 'emotion,' and of 'will.' We must go on to discuss these distinctions in a little more detail.

Perception is very clearly a consciousness of sharing the experience of a number of other selves. The more closely, indeed, we observe ourselves perceiving, the more surely we discover in the background of experience the consciousness of other people, actually or conceivably present, who see what we see and hear what we hear. The perceived, as opposed to the imagined, is, indeed, in our every-day consciousness that which everybody present is supposed to share with us,[1] as contrasted with our unshared individual experience. This is, in fact, the only psychological distinction between perception and imagination. From the atomistic standpoint there is, as Titchener says,[2] "no fundamental psychological difference," for the only possible criterion, in this case, the greater vividness of the percept, fails of justification in many cases, normal as well as abnormal. Unless then we mark off perception, by the purely metaphysical attribute of correspondence with reality, or by the physiological character of peripheral excitation,[3] we shall find that its only distinction is this consciousness of sharing the experience of others. This is also the reason why we always try to prove the perceptual character of a given experience by showing that it was shared by several selves. It was a real ghost, or mouse, or table-tipping, we argue, else it would not have been seen, or heard, or felt by all these people.

[1] As psychic fact, the percept also is, of course, unshared, but this is a conclusion of reflective, not of immediate consciousness.

[2] *Outlines of Psychology*, § 43.

[3] Cf. Titchener's account, in his elementary treatise: *Primer of Psychology*, § 39.

And, whatever the value of this argument, it indicates the nature of perception, as an experience assumed to be 'common.'

From this point of view, once more, emotion is the consciousness of oneself in passive relation with others. The truth of this account of it has seldom in fact been questioned. Almost without exception [1] psychologists define the affective experience as a relation to oneself. Even Titchener, one of the most consistent of atomistic psychologists, makes a classification of emotions as 'subjective' and 'objective,' and distinguishes affections from sensations by their relation to selves [2]—the fact that "from the point of view of ordinary life they are not looked upon as inherent in objects . . . " but "our own peculiar property . . . within oneself." [3] The passivity of the emotional experience is no less evident to introspection than the fact that it is a relation of myself to other selves. We have only indirect control of our feelings; we do not hope or fear, love or hate at command; we are a prey to our own emotions; like Werther we are "prostrate" beneath them.

With the passivity of the emotional experience we may contrast the activity of 'will' and of 'faith.' No psychological terms refer more obviously to the relation of selves. 'A volition' and 'a belief' are contents-of-consciousness and capable of analysis into atomistic elements, but will and faith are meaningless terms except as they are used of selves. They are distinguished from each other in that faith is self-abandonment, whereas will is self-assertion, imperiousness, a bullying attitude, as it were, toward people and toward things. 'The will' is thus a relation of the self, not any specific direction of the mind toward a definite and narrow end. It is a realization of my power to subordinate my environment to my use, a possession of myself which is at once a subjugation of every outlying circumstance and of every opposing self. With simple truth, indeed, I may say of myself, in the dominating attitude of will, that

[1] Cf. for illustration: Ward, ENCY. BRIT., XX, p. 67 (feeling "not a presentation, but a subjective state"); Wundt, *Phy. Psy.*, Ch. X, p. 510 ("jene subjektive Bedeutung welche wir . . . den gefühlen beilegen"); Külpe, Grundriss d. Psy., § 34, 1 ("die Gefühle als etwas rein subjektives").

[2] *Outline*, § 32 (1); *Primer*, § 27 (2).

[3] *Outline*, § 58 (2); *Primer*, § 63.

"I am the master of my fate,
I am the captain of my soul."

Faith, on the contrary, is an adopting, not an assertive, phase of experience. As in the relation of will I subordinate other selves to myself, so in the attitude of faith or loyalty I subordinate myself to others. Yet faith, like will, is an active, not a passive attitude of selves. It is no emotional sinking beneath the force of one's opponent or one's environment, but a self-initiated adoption of another's cause or a spontaneous espousal of his interests. Men of faith have always, indeed, like the heroes of Hebrew history, "subdued kingdoms, wrought righteousness, obtained promises, stopped the mouths of lions," through the active identification of themselves with great causes, great theories and great persons.

The conception of conscious experiences suggested by these studies of perception, emotion, and will is developed in outline by the summary which follows:

A. Consciousness of oneself without explicit consciousness of other selves.
  I. Consciousness of facts (psychic and physical) in comparison with oneself realized as
    a. More 'permanent' than facts: Memory.
    b. More 'inclusive' than facts: Judgment.
      etc.
  II. Consciousness of oneself in connection with facts:
    a. In passive connection: Feeling.
    b. In active connection:
      1. Self-assertive: Will.
      2. Adoptive: Belief.
B. Consciousness of oneself with explicit consciousness of other selves.
  I. As actually or conceivably sharing the experience of an indefinite number of other selves: Perception.
  II. In connection with a limited number of other selves.
    a. In passive connection: Emotion.
      1. Without sharing the feeling of other selves.
        (a) Happy through other self.
          (1) Simple emotion: Liking.
          (2) With consciousness of other self as actively related to oneself: Gratitude.
        (b) Unhappy through other selves.
          (1) Simple emotion: Dislike.

(2) With consciousness of other self as actively related to oneself:[1] and	
a. Superior[2] to oneself:	Terror.
b. Equal to oneself:	Hate.
c. Inferior to oneself:	Contempt.
2. Sharing the feeling of other selves.	
(a) Happy through	
(1) Sharing happiness of other self:	*Mitfreude.*
(2) Sharing unhappiness of other self:	Malice.
(b) Unhappy through	
(1) Sharing unhappiness of other self:	Pity.
(2) Sharing happiness of other self:	Envy.
b. In active connection with a limited number of other selves.	
1. Self-assertive:	Will.
2. Adoptive:	Faith.

The purpose of this paper is now attained, if the 'science of selves,' thus distinguished, illustrated, and classified, has been shown to deserve consideration as one valid form of psychology. The course of discussion has required also a brief formulation of psychology as 'science of psychic contents.' The principle of distinction should now be clear. On the one hand we have psychic contents divorced by hypothesis, for convenience of investigation, from the selves for whom, after all, they are facts; and, from the other standpoint, we have these same selves, scientifically assumed not metaphysically apprehended, studied in their diverse relations to each other and to facts of other sorts. Every conscious experience may be treated from both points of view, yet each method is especially adapted to certain purposes of study. Atomistic psychology, for instance, furnishes the easiest basis for experimentation[3] and its 'psychic contents' are most readily correlated with physiological facts. The science of selves, on the other hand, though distinct from ethics, social science, and philosophy, forms the simplest introduction to each.

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[1] Cf. Höffding; *Psychology* (Eng. tr.), p. 234, *ff.*

[2] This principle of division is that of D. Mercier (MIND, IX).

[3] Cf. E. B. Titchener, PHILOSOPHICAL REVIEW, Sept., 1899.

THE CONCEPT OF CHANGE.

THREE clearly distinguishable points of view in turn have been assumed in the following pages from which to regard the phenomenon of change. As to the fact in question there is no dispute; it is only when we come to give an account that shall attempt to define its ultimate significance that disagreement enters. Without aiming at exhaustiveness, it may serve to place the subject in clearer light if we look at it from the standpoint: (1) of the logician, (2) of the psychologist, and (3) of the metaphysician.

I.

Minto tells us that the new spirit which was aroused by reaction against the mediæval temper has issued to the modern world the mandate: "Bring your beliefs into harmony with facts."[1] Whatever is true of other departments, the effort has been made by modern physical science to state its conclusions at the end of a careful investigation of the actually observed phenomena of nature. But with this aim, and under this motive, certain modifications have been introduced into the method of science, the full exposition of which has been the most fruitful task undertaken by the science of logic in its later developments. It does not fall under our purpose to unfold a general theory of scientific method, but to call attention to the way logical treatment of the phenomena of change obliges us to conceive of those facts, into harmony with which we are exhorted to bring our beliefs. While it is true that the older logic constantly keeps in mind the obligations of proof, it has not been forgotten, as Sir John Herschel has said, that "the goal of science is explanation"; and what the newer logic enables us to do is clearly to realize the conditions necessary to an explanatory science, and to bring the final results of such science to definite and accepted tests.

Were change not a property of bodies, that is, did we live in a static world, there could be no science of molar physics.

[1] *Logic, Inductive and Deductive*, p. 243.

Whatever the particular relations that come to be emphasized in the explanation of the fact of change, unless there had been in experience a changing order of perceptions, the necessary motive to scientific effort would have been wanting. In the first instance, the source of all our ordered understanding of nature lies in the apparent disorder of nature, and it is among the larger and more obvious classes of facts that the first attempts are made to introduce system. *Science*, that is, *springs out of the conflict of wishes with facts, and is at bottom the effort to satisfy a vague, undifferentiated æsthetic sense which shows itself at first under the demand for order and unity.* The primitive consciousness of what is æsthetically satisfying, and the restraint under which the human spirit lies so long as the objective world presents itself hap-hazard, gets expression for itself, earliest as well as latest, in the refusal of the human mind to believe that the phenomena of perception *cannot* be reduced from the changing order to a rational system of relations. And herein we see that the modern effort to rationalize beliefs, by making them dependent upon objective fact, is ultimately dependent upon the more primitive demand of the human mind upon itself, to substantiate its beliefs by compelling the sensuous continuum to conform its behavior according to rule. It is out of the conflict of these two movements that progress has been made in the scientific treatment of natural phenomena.

When attention is called to the importance of 'fact' for a scientific investigation of the phenomena of change, we are in danger of assuming too restricted a definition of the term. Although in the first place it is the differences in the 'crude lumpishness' of things that has attracted the observation of men, and that provides the push-stone of the scientific impulse, it is not merely these differences that have to be accounted for in the final outcome. Indeed, it is but a very low order of fact that is here taken cognizance of, and their value, from a scientific point of view, depends upon the ability of the investigator to frame hypotheses which shall unite the diverse multiplicity into a complex unity, and thus to bring to light within the order of nature a *new class of facts.* The vice of that school of philos-

ophy of which Hume is *facile princeps*, has borne legitimate fruit in obscuring the objective validity of the categories of the understanding; but among scientists themselves the more ultimate questions are coming to be regarded not only as inevitable, but as legitimate, and they are taking a calmer view of the situation.[1] And this tendency is seen in the wider definition of which the term 'fact' is recognized as capable. A fact is whatever belongs to the objective order; and the objective order has its laws as well as its phenomena, and the former no less than the latter are 'real facts' without which the latter would not exist, as fact, at all. To illustrate: The facts of which molar physics takes cognizance are masses and their behavior; and that particular behavior of bodies of which it has to give account is their change of position, or motion. When, therefore, this science is defined as "including the phenomena of motion and force as belonging to bodies in the aggregate,"[2] it is evident that different orders of fact are comprised in the phenomena of which it treats. That, and to a certain extent what "bodies in the aggregate" are, we are informed through the avenues of sense-perception; but it is not mere aggregate masses, however imposing, that form the subject matter of molar physics. Rather is it these masses conceived of as capable of motion, and of exerting and resisting force. Here, however, it is necessary to remark that we have, without going outside of scientific definition, left the sensible order of experience, and have made appeal to another conceptual class of facts, which are now presented for study as if they had the same amount and kind of evidence as make 'facts,' in the ordinary meaning of the word, 'such stubborn things to deal with.' And we may add that when, at the conclusion, the attempt is made to state the laws which correlate and conserve the various operations of force, and which determine the direction and momentum of all resultant motion, we have taken a step still farther away from the assured ground from which we started in sense-perception. But it should be observed that this extension,

[1] W. K. Clifford, *Body and Mind*, p. 1; Cf. Stewart and Tait, *The Unseen Universe*, 6th Ed., p. 220.

[2] Bain, *Logic*, p. 451.

in a logical way, of the foundations and conclusions of molar physics does not invalidate the fact of motion; it only points out, what will become clearer later on, the line along which it is profitable to seek for its fuller explication. In other words, we conceive it to be the distinct function of logic to draw attention to the procedure of science in this way, in order that the right degree of weight may be given to the evidence for precisely the explanation of the fact of change which it furnishes.

In a logical treatment of the concept of change, we are not limited to a criticism of scientific processes and conclusions; we must, on the contrary, advance to a consideration of the principles contained in, and on which reposes the logical use of the understanding. Passing over the generally accepted opinion that we cannot construe the principle of identity without implying a principle of difference, we shall carry the appeal of this section, in conclusion, to the principle of sufficient reason, to find out what, with regard to the concept of change, it may have to tell. In general it is according to this principle that our reasoning as a logical procedure is carried on. Or, to state the same truth concretely, it enables us to ascertain what the formal conditions are on which any given X may be regarded as a case of A. We may, that is, make the judgment, X is A, bring the unknown under the known term at the end only of a course of reasoning, and the conclusion, a judgment presided over by the principle of identity, is true, provided the individual judgments that are its grounds are not mistaken, and provided that the 'reason' for the terminal judgment is what, from the point of view of logic, is regarded 'sufficient.' It is, however, the process of inference, and not the truthfulness of the intermediate judgments, that is of importance for our present purpose. It is the fact of inference in the developing life of mind, and the extension of knowledge along lines laid down by the principle of sufficient reason that emphasizes the importance and marks the scope of the concept of change. For it is according to this principle that we are warranted in grasping together in one complete view the multiform diversity of sensuous experience. In this way do we give ontological significance to our thought forms; or, what is the same

thing, interpret ideally the objects of sense perception. For the principle of sufficient reason, in its common logical use, is a valid principle of thought only on the supposition that the forms of thought and of things are fundamentally at one. But this is only to say that correspondent with the changes which take place in the process of inference, are to be found like changes in the order of nature; or, in other words, that the concept of change is a true concept implying a valid grasp upon reality, whether minds or things.

Further interpretation of our concept in the light of the principles of logical thought, reveals the fact that change is by no means a simple affair, and does not take place in uniform directions. This would be the case if we were confined to the single principle of identity. The self-identity of any object is *eo ipso* other-excluding. It is otherwise with the principle of sufficient reason; for the unity at which it aims is the unity of totality. This means that change has to be conceived of as taking place in a number of directions; and, theoretically, there is no objection to the supposition that nothing is really itself until it has connected itself immediately or mediately with every other known thing in the world. The principle of sufficient reason, that is, when worked out in detail, determines the conditions on which, from a logical point of view, change is possible; or, to use the words of Kant, "All possible experience therefore, that is, all objective knowledge of phenomena with regard to their relation in the succession of time, depends on the principle of sufficient reason."[1]

II.

When we propose to ourselves a treatment of the concept of change from the psychological point of view, we understand that something more is required than the testing of psychological theory by rules laid down by the logic of consistency. It is no doubt necessary that into that view of the nature of this science, which we feel justified in accepting, there be allowed to enter no false reasoning, and that we admit freely the right of logic to tell

[1] *Critique of Pure Reason* [Max Muller's Translation], p. 164.

us whether the evidence is sufficient to warrant the conclusion at which we arrive. Indeed, in proportion as we feel compelled to ally ourselves with those who are persistent in the cultivation of this discipline as one among a number of other sciences, we are forced to the admission that the results, both general and particular, to which we are led are reliable judgments, if the grounds upon which they rest are considered adequate, from a logical point of view. But it is evident that, before the application of logical tests can be instituted, we must have made some advance in our description and explanation of the facts of which psychology more particularly treats; for logic, either as a science or an art, does not do our work for us, but passes judgment upon it after it is completed; and the question we raise is, whether in the particular task of investigating states of consciousness, psychology finds any trace of the fact to which our concept bears witness, or furnishes material for the formation of the concept itself. In other words, is it a true concept with which we are dealing, organic, so to speak, to the mind?

That no off-hand reply can be given to this inquiry may be shown from the historical point of view. Closely connected with the question of what general view ought to be taken of the studies psychology cultivates, has been associated the metaphysical question concerning the nature of the mind itself. To speak in scholastic terms, two opposed standpoints have been assumed: the one regarding the mind as 'pure passivity,' and the other as 'pure activity'; and, in a general way, we have, answering to these attitudes, the nature of our science described as 'analytic,' and 'genetic' psychology. According to the former, we have to take to pieces the complex products of mental life, in order to show into what simplest elements they may be reduced; according to the latter, we have to trace the life history of mind as a growing product. It is instructive, however, to note that the method which each school adopts is rather suggestive of the claims of the other; for, if we take Kant as representative in the one case, we find him keen in his *analysis* of psychic phenomena, and if Hume may be introduced as chief on the other side, is he not an adept at the *construction* out of sensations and ideas of the

whole mental outfit of man? It would seem that while extreme claims have been made on both sides, a well-balanced judgment has been gaining ground, and to-day we cannot be partisan with regard to either position, and are adopting, as well in our processes as in our results, elements that belong to both. No longer in our most general view of the subject can we ignore the fact that the mind is in no sense an Eleatic 'One,' but is undergoing perpetual change; and, indeed, it is this fact that differentiates and constitutes the unique problem of psychology. The modern point of view, therefore, is not unfriendly to the supposition that psychology may have something to say concerning the concept of change.

To bring this position to more positive psychological tests, we may briefly refer to the question of the compounding of sensation. The problem here is to determine whether concepts are formed by the addition of simple elements of sensation, or whether there is, in and beyond the phenomena, that which accounts for their particular direction and result. In the former view, the explanation is found in the extension to mental facts of the laws that obtain, for example, in molecular physics. With notable difference in the line of defence, this is the aim that unites the so-called 'new' psychology with the phenomenalist doctrine of Hobbes and Hume. This opinion may be rejected for two reasons: (1) because it has never yet been shown that so much sensation invariably follows so much stimulation. And if we look at the question from the introspective point of view, we are no readier to accept the mechanical view, because (2) our sensations do not come trooping one by one into the field of attention. The keenest analyst of mental life has never yet been able to isolate a single sensational element; the sensational basis of life has not the fixity that is the condition of success. The fact is, as every one knows, that sensations present a regular *mêlée;* they are fluid as a stream. And the problem of compounding is not so much one of getting sensations to fuse together as of keeping them sufficiently apart so that a definite character may be given to certain areas which have a relatively more important interest for the moment. Or, to put the same truth another way, the

question of sensation-complexes is really a question of attention, and of the discovery of the meaning of the already complicated, lawless stream of sensation. And when we approach the problem in this way, we recognize that our only advance in the progressive mastery of this rude and satyr-like horde is by learning the secret of their life from themselves. There is, in other words, a law of their becoming which is not contained as an element of perception, but is present in it as a principle of differentiation and integration. And this is the other view mentioned above. We need not deny the content of consciousness, nor must we ignore the activity of consciousness, for there is no way of organizing experience without the recognition of something more than bare, unmediated sensation. The impossibility of the attempt and the manifest confusion to which it leads is the protest of the principle itself, and the only escape from the denial of an ordered experience, not to say knowledge, is its full recognition. Thus, then, are we led to recognize the truth that *both content and form are conjoint factors in every mental experience, due to the fact that activity, working in and through both, manifests itself as a law of development, a principle of becoming;* and this cannot be reduced to simpler terms.

The validity of the concept of change may, further, be shown by reference to the psychology of perception. Perception is essentially an object-referring experience; it is likewise a localizing experience; and the two go together. Not only in perception are objects given, but they are given in a particular place and time. Hence not only do we name things, *e. g.*, tree, boat, sky, etc., but also use words definitive of position, *e. g.*, here, there, now, then, once, etc. But the completed act of perception, expressed in the form of a judgment, includes both sets of terms, *e. g.*, here is an axe. Already, it is seen, we are building upon the lower stages of sensation; for any object is only as the result of the compounding of sense-impressions, which compounding, as we have indicated, is accomplished according to an implicit law of association in all mental functioning. But what makes the sensation complexes pass from the relatively unstable and rudimentary stage to the more permanent and complex is

the fact that in perception new relations of space and time, objective relations, are introduced into the object as mere object, *i. e.*, as mere complex of sense-impressions, and made to stand in an order of experience which develops according to the same law or principle of becoming. Not any time or place can be predicated of any object, but only such a time and place as is possible in relation to the entire world of objective experience. And this fact of limitation points to an essential principle in the process of perception; namely, that, while change is a condition of the growth of the objects of sense-perception, permanency, *i. e.*, limitation of the whole process of change, is no less fundamental to this class of objects. Unless objects were formed not only in obedience to internal consistency—the position of the Idealist—but also to external possibility—the position of the Realist—perception would not be possible; for it is just these external, objective relations that are most prominent in every perception. While, therefore, as a psychological fact, objects may be regarded as constituted by perception, they do not pass away in perception, but remain vitally connected with all previously perceived objects. And this inter-relational character of the objects of perception is the important element for our present purpose, because it is only another way of stating that the fact of change is a constant accompaniment of the principle of differentiation, which is operative in all the processes of mental life. Every new object, from this point of view, is a new differentiation, and is an achievement of the law of the organic development of mental phenomena.

A complete discussion of the concept of change in its psychological features is not possible without reference to the place and function of will in the growth of mental faculty. It would be easy, in this connection, to overestimate the importance of conation as a self-conscious, directing force—the determinant, *par eminence*, of change on the side of the subject of states. This seems to be the tendency of a recent contributor to the *Psychological Review*, in an article on "The Growth of Voluntary Control."[1] The difficulty of the subject is, of course, connected

[1] Nov., 1899.

with the question as to how the claims of mental mechanism and conscious interference are to be adjusted. Or, perhaps, to state the problem in another way, we may raise the question of fact, whether both terms of the contrast are not rather variant expressions of the fundamental phenomenon of change in different degrees of development. If, as I should be inclined to hold, this is the true standing of the case, we have not so much the problem of mediating 'freedom and mechanism' by 'control of will,' as the necessity for a clearer description of the facts involved in the growth of mental life from its inchoate beginning to its more completely organized and conscious forms. And what we notice is not that mechanism gives way to freedom, but that change takes on more complex functions as experience increases. There is, that is, a gradual self-unfolding in which the self becomes progressively more conscious, not merely of itself, but also of the ends toward which it bends its energies. Change, that is to say, does not take place as a matter of antecedent and consequent in time, that is, as an external phenomenon of some unchanging, permanent subject of states, but in obedience to a principle of becoming, which is of the very nature of the subject itself.

III.

The purpose of metaphysical endeavor is to establish the objective validity of the principles of human thinking. Limited to our present subject this means that we are to construe the concept of change in such a way that it shall be shown to apply to and be embedded in all we call real. But this object imposes a determinate point of view, which may be indicated in the following brief way. In the history of philosophy, under a variety of opposing terms, not a little learning has been devoted to marking the distinction between phenomena and noumena, in the effort to restrict all judgment to the former, the latter being regarded as that about which we cannot predicate anything with certainty. The value of philosophical scepticism, discriminating in this objective way between the objects of a possible knowledge, may easily be overlooked, because the distinction itself depends upon

a certain limitation under which the mind of the sceptic has chosen to think. When phenomena are declared to be the only objects of the knowledge of man, we may accept the statement, if at the same time we are allowed to add 'from a given point of view'; and then there need be no hesitancy in affirming, in respect of noumena, that this is a limiting concept without positive characteristics. If by the limitation of the objects of knowledge to phenomena, it is intended to specify the subjective character of the noetic process, and to emphasize the mediacy of all so-called knowledge of things, we may regard the position as enforcing the validity of the claims of psychology as the investigation of 'states of consciousness, as such.' Even if the scepticism of which we are speaking becomes dogmatic, and develops a doctrine of philosophical relativity, for the most part it will be safe to agree with what is affirmed; for no one need be concerned to defend the metaphysical reality of a knowledge which is not a possible knowledge for finite intelligences. There is, at least, so much connection between our metaphysics and epistemology that it will be a fruitless task to attempt the construction of the real world, to educe and clarify its principles, unless in the first place it is possible to gain a knowledge of the world that is real. We may therefore say: *It is from the point of view of the philosophy of knowledge that the metaphysics of change has to be elucidated.*

What, then, are we warranted in affirming, on the basis of a critical epistemology, with regard to the questions raised in this section? Two points are chiefly concerned: (1) The metaphysical character of human knowledge, and its implication of the reality of change; (2) the character of the changes to which our knowledge certifies.

Epistemology and psychology are both concerned with the subject of human knowledge. Their distinctive function has been marked in the history of philosophy by the distinction between what the object of knowledge *is* and what it *seems to be*. Thus when we say that reality is the characteristic of all we most surely know, we are simply affirming that this cannot be reduced to mere appearance or seeming-to-be. This, again, is only the rec-

ognition that there is a difference between that knowledge whose description and explanation is given by psychology, and knowledge the truth and principles of which are the established results of a critical epistemology. In other words, we cannot rise to the highest certainty except as we acknowledge both the dependence and unique difference of these two ways of attaining truth. If, however, we would emphasize the distinctive character of the mind's attitude toward its object when it seeks to know most fully, we should have to remark a certain determination to make it tell the truth about itself, and a readiness to accept, *pro tanto*, the account it gave. From the psychological side, of course, this would only mean that into all our knowledge there entered an exercise of will followed or accompanied by an emotional satisfaction as the subjective process came to maturity. But this is not all the truth of knowledge there is, nor are these the final terms in which the facts of the case are to be stated. For why should there be so strenuous an effort to know, if all this were merely a subjective pantomime of shadow-shapes? Unless there was something to be known, a reality to be grasped, why should there be any grasping to be done by the mind which is to know? From the point of view of the philosophy of knowledge, that is, the rise and fall in our subjective states, in our best efforts to know the truth, are due to the tactfulness of our endeavor to bring subject and object into such reciprocal relations that they may be mutually respected. Nor is this all. For while we are sometimes very awkward in our approaches to reality, and suffer in consequence, our most successful wooings of nature are never unattended by emotional accompaniments. That is to say, the known thing is not a passionless being, and we are not unaffected by the way it presents itself to us. Knowledge is a *reciprocal* relation, and the change of states which we feel ourselves to experience, is a witness alike to the activity of the knower and the known. Thus we may say that the concept of change is a principle of knowledge, because it is a mode of activity which belongs, in the last analysis, to the ontological implications of knowledge. There is a transcendant quality in the activity of mind called knowledge, the correlate of

which in the ontological sphere is the fact of change in some form or manifestation. "It is not simply a permissible postulate to hold that change in my perceptive consciousness is explicable because change is actual in the world of things. It is rather the necessary presupposition, the inevitable import of all perceptive and scientific knowledge of things, that they actually do change." [1]

Nor must we suppose that the differentiating principle of knowledge, by which we take hold of the concrete changes in the world of reality, is merely a sea-saw movement of the mind between subject and object due to fatigue of attention. On the other hand, we wish to insist upon the simultaneity in knowledge of object and subject, whether the object be self or thing. We do not know self or things because either has temporal priority, but because knowledge implicates, in the very activity it is, whatever is said to be known. Hence the changes we know ourselves to undergo cannot be regarded as more certain and valid as knowledge than the changes in which the knowledge of things is given. If self and things form a system of being, inter-dependent and other-conditioning, the objectivity of the one can be no less real, or real in a different sense, than the objectivity of the other; the objective validity of both is certified by the actual process and act of cognition.

When appeal is made to actual cognitive experience of the changing world of things and minds, the difficulty of metaphysical theory is enforced from the number and direction of the concrete changes which the elements of that experience undergo. It is this fact which makes the mechanical theory of nature so unsatisfactory from the point of view of the philosophy of nature. But it might be a pardonable shortcoming, when the data are so numerous and complex, if the offered explanation adequately covered part of the facts, facts of a particular class or group. But we find that the fundamental problem has not been clearly perceived. It is not mere change, change unlimited in scope and character, that arouses the spirit of critical inquiry; change becomes a problem when the limits of change come into view,

[1] Ladd, *A Theory of Reality*, p. 148. Cf. *Philosophy of Knowledge*, pp. 360, 361.

when the things that change can change no farther without at the same time ceasing to be. In other words, the apparent opposition of permanency and change, unity and succession, not only within the totality of the one experience, but likewise in the unity of the one object of every momentary experience, raises questions which the 'theory' of mechanical science has not only not answered, but which, it is plain, it has not understood. For, in the interest of an unalterable fixedness of the elements of experience, the fact of change has been reduced to a discrete difference among the objects of knowledge related to one another in an external way. Thus, if we take the definition of Kirchoff,[1] we learn that mechanics is "the science of motion; we define as its object the complete *description* in the *simplest* possible manner of such motions as occur in nature." It is evident, then, that the question of interpretation is given up, either as not constituting a separate inquiry apart from "description in the simplest possible manner," or as beyond the scope of the science of motion. But we would suggest that to confine the inquiry of mechanics to the "description . . . of such motions as occur in nature" is to take an external point of view, and does not carry us, in the problem of change, beyond the fact of change itself. Now, it is this fact that *is* the problem, and it can only be solved by interpreting it in terms of the higher life and purpose of the world. The theory of mechanism, therefore, does not fairly face the difficulties of the problem, if indeed it helps us to its clearer appreciation.

"Change must find its way to the inside of being."[2] This is the only possible alternative. It is the dynamical as opposed to the mechanical conception of nature. The two theories are dependent upon which of the two contrasted terms, permanency and change, is regarded as primary. If permanency be considered the fundamental fact, change must be made harmonious with it, and the result will be some form or other of the theory already considered. If change seems more characteristic of the world as we know it, permanency will then be a phase in the progressive development of the cosmos. This is the theory of dynamism.

[1] *Vorlesungen über mathematische Physik*, Bd. I, *Mechanik* § I, Berlin, 1876.
[2] Lotze, *Metaphysics* (English Translation), Vol. I, p. 106.

It involves a conception of nature from the point of view of its *potentiality* (δύναμις). Now, it is interesting to note, that whatever success may wait upon our effort to explain change as an alteration in the space and time relations of static objects of experience without appeal to self-consciousness, there are no items of objective experience which enable us to account for the reality of change from the dynamical point of view without such appeal. The theory, in other words, is confessedly psychological. It is only as we interpret nature, so to speak, as a larger self, that we can understand the attribution to it of 'resident forces,' or ascertain the nature of these inhering potentialities. But this does not destroy the scientific character of the resulting knowledge. For if things are, and are as they are known, the psychological method of investigation brings them within nearer range. For, from this point of view, what is the object of knowledge but the consciousness of the process in which it lives and moves and has its being? The formal conditions of the act of cognition, that is, indicate the presence of change in the intellectual, affective and volitional states in which the changing object of knowledge is given.[1] And would the account differ very materially if self-knowledge and not thing-knowledge were the objective of knowledge? Only in this case there would be a clearer consciousness of the coming-to-be which all knowledge implies. Or, to utter a paradox, an object, thing, or mind, never is what its states indicates it to be, but these states are what it necessitates them to be. Thus permanency and change are both factors in the growing life of the world. The cosmos is both ideal and real, and it is the ideal character of the world-reality that both occasions change and makes this a necessary principle of our knowledge of the real.

The epistemological concept of change has not received final metaphysical treatment until it has been shown to involve for human knowledge the orderly development of the world of knowledge. The necessity is urgent of defining more particularly the law in accordance with which change goes on: the process of change is not self-explanatory.[2] Metaphysically, it is being that determines becoming, and not *vice versa*. But it is

[1] Cf. Ladd, *Philosophy of Knowledge*, pp. 100, 101. Also pp. 212 f.
[2] James Seth, *Ethical Principles*, 3d. Ed., pp. 430–434.

not the Being that *is*, that provides us with our cue, but the Being that *is to be*. Hence, as we have said, all change must be conceived as taking place according to ideal ends. This is not merely the dream of the philosopher but the truth of science. "The supreme message of science to this age," according to Drummond, "is that all nature is on the side of the man who tries to rise . . . an ascending energy is in the universe, and the whole moves on with one mighty idea and anticipation." [1] And if we would interpret aright a universe so ministrant to man, it is man who must provide the key; for in man is self-conscious life, do we know more intimately and clearly what it is to move in anticipation of the end. It is this universal note that has been struck by the poet who exclaims,

> "Oh for a man to arise in me,
> That the man I am may cease to be."

Our principle of becoming, therefore, must be a principle of human nature, if it is to take in all the known changes of the world; it must not be a mere empty form, but a formula which has its application to all concrete changes of real being. The concept of change, as an epistemological postulate, has for its correlate in metaphysics a principle which seeks to embody the characteristics of the changes real being is known to undergo. What kind of a principle this is has already been sufficiently indicated. It cannot, without carrying the subject into the higher fields of enquiry connected with our moral and religious life, be more fully determined. But the farther we carry the inquiry along the speculative line, the nearer we come to the outstanding practical import of conduct and faith for our fullest understanding of all that can maintain its right to be called real. If, at present, all that we can say is that the universe manifests itself not as permanent and unchanging, but as a cosmic whole which unfolds according to a law which is autonomous, and infolds within itself all the known differences of the real, this is only to state that our highest unity is the unity of personality, and our final law the law of self-directive reason.

ARTHUR ERNEST DAVIES.

EUSTIS, NEB.

[1] *The Ascent of Man*, p. 340.

REVIEWS OF BOOKS.

Evolution and Theology and other Essays. By OTTO PFLEIDERER, D.D., Professor of Theology at the University of Berlin. Edited by ORELLO CONE. London, Adam & Charles Black; New York, The Macmillan Co., 1900.—pp. 306.

Biology teaches that consciousness has been developed to facilitate those adjustments which constitute life. Thought is a means to action. The theoretical exists for the practical. If philosophy is to win again the influence in human affairs which it has had in the past it must recognize this vital principle. Primarily theoretical, it must become practical. It must show its power to grapple with real problems of action if it is to become a force in human life, and to receive that consideration which a rational study of ultimate principles would seem to deserve. Theoretically, perhaps, conduct in all its phases should be subject to the influence of one's world-view. As a matter of fact, conduct is too much the product of habit, social custom, and historical forces for this to be the case. In certain fields, however, concrete action is determined with a considerable degree of immediacy by one's view of ultimate principles. This may be the case in the sphere of morals whenever we are confronted by a situation to which the customary rules of duty do not apply. Politics and religion, however, are the two fields in which the plain man, if at all thoughtful, is most likely to be influenced by philosophical considerations. Such considerations may often determine action without being recognized as philosophical. In the present presidential campaign, for example, an individualistic theory of the state, half unconscious, but no less influential, will determine many votes for one candidate. An organic and historical theory of the state will be equally effective in deciding votes for the other. It is the duty and privilege of philosophy in this field to make explicit and rational the theory of the state which is only implicit, instinctive, and traditional in the common mind. Again, in religion a man's philosophy may determine his position. A philosophical faith in the universality of natural law has often led to a denial of the supernatural and the breaking up of all religious relations. The religionist who is inclined to distrust philosophy may be reminded of the Church Fathers who were led to Christianity by the study of Plato, and of that fine saying of Clement of Alexandria, that philosophy was the schoolmaster to lead the Greek to Christ. Now as then the Greek type of mind must needs

have its spiritual experience supplemented by philosophical reflection in order to reach a religious equilibrium. No conflict among the elements of the higher life has produced so much distress in individual minds, or so retarded the advance of society, as the conflict between religion and science. Just now we seemed to have reached a period of truce in this conflict. There is not now the popular discussion of the question that there was a few decades ago when the doctrine of biological evolution first began to penetrate the popular mind. No real solution has been reached, but a *modus vivendi* has been established; a sort of tacit agreement for the time being by which Science and Religion are each to keep to its own territory and avoid all incursions into the disputed borderland. Great as is the contribution of philosophy to life in the fields of ethical and political theory, its crowning work for the practical life lies in its effort to harmonize, not superficially but fundamentally, the scientific aspirations and the religious instincts of mankind.

In this work no name stands higher than that of Otto Pfleiderer, whose great work on the Philosophy of Religion is a recognized standard. In the volume before us we have a series of essays dealing in an untechnical manner with various aspects of the same great subject. Of the ten essays several have already appeared in English: "Evolution and Theology," "The Essence of Christianity," and "Jesus' Foreknowledge of His Sufferings and Death," in *The New World;* "The Notion and Problem of the Philosophy of Religion," and "Is Morality without Religion Possible or Desirable?" in THE PHILOSOPHICAL REVIEW; and "The National Traits of the Germans as Seen in Their Religion," in *The International Journal of Ethics.* The remaining four, "Theology and Historical Science," "Luther as the Founder of Protestant Civilization," "The Task of Scientific Theology for the Church of the Present," and "Free from Rome," are now published in English for the first time.

Pfleiderer recognizes at once that no valid accommodation of theology to science can be made by the piecemeal method, *e. g.*, harmonizing geology and the first chapter of Genesis. No matter what the differences among men of science in their several conclusions, all accept the scientific method. "This method is simply that of causal thinking, according to which every event is the necessary effect of causes whose operation is again determined by their connection with other causes, or by their place in the totality of a reciprocal action of forces according to law. Applied to the complicated phenomena of life in nature and the world of men, the

principle of the causal connection of all that happens has received the more definite expression which we are accustomed to give it in the term 'evolution.' That all life is to be apprehended from the point of view of development, *i. e.*, that every moment of its course is to be regarded as the effect of the causes lying in the preceding condition, these causes again serving as means for the purpose of the following condition—this may be designated as the commonly recognized principle of all the science of to-day, no matter in what domain of existence its object lies."

What is true of all life is true of the religious life. In the fact that Pfleiderer fully accepts this lies his significance. The demand that the scientific method be applied to religion is often made by its enemies; few of its friends have dared appeal to the same imperial court. The documents of Christianity and Judaism should be subject to the same principles of historical investigation which are valid in all other historical domains. "The attempt has been crowned with brilliant success. Everywhere, where formerly miracles and oracles, the activity of supernatural persons, and the appearance on the scene of supernatural beings were thought to be discerned, there shows itself now a constant succession of events that are natural, *i. e.*, in accord with the universal laws of human experiences. The prophets appear no longer as media of supernatural oracles, but as men whose works and words are perfectly explicable from their character regarded in connection with the conditions of their age and environment. . . . What has here been remarked in general of the prophets as the champions of religious progress, is also true in particular of him who as the most perfect blossom of the religious development of Israel constituted also the essential force of the new Christian religion—Jesus of Nazareth. . . . Jesus also was a child of his age and of his people. . . . That the divine principle which enlightens every man has revealed itself in an extraordinary manner in individual men by reason of the especial force and purity of their consciousness of God, and that among these prophets of the rational God-consciousness Jesus takes the highest rank, so that one may see in him the most powerful human organ of that principle—these are declarations that may be made without contradicting the scientific view of history."

This humanizing of its founder does not not rob Christianity of its idealism, if only to this evolutionary interpretation we add the distinction of the divine principle in the human personality. "The divine in Jesus does not denote a violent rupture of the course of human history with the exclusion of all causal connection and all human per-

sonality, but it lies at the basis of all this history from beginning to end; it dwells in it as the divine Logos, as the rational aptitude of human nature, as the impulse toward the true and good, as God-consciousness. All progress in the development of mankind from the lowest grades upward, every achievement of culture which makes rude nature the servant of reason, every formation of higher ethical ideals, and every clarifying and deepening of the God-consciousness, is an effect and a revelation of the divine Logos dwelling in our race. But because the divine, as the indwelling rational endowment of our race, always and everywhere lies at the basis of the *total* historical development, no *single* historical event is to be isolated as a supernatural effect or phenomenon, and taken out of the connection of finite causes and effects."

This distinction between the individual and the universal, the actual and the ideal, has itself been the subject of development from the beginning. Paul sets free the new religious principle from its Jewish and national husk. But thus set free, it was "to be immediately clothed again in a new supernaturalistic envelope, the origin of which likewise lay in the historically given ideas of Hellenism and Pharisaism. Therefore the Pauline Christ can just as little be for us a binding object of faith as the Jesus of history. The further development, indeed, again passed soon enough beyond the Pauline theology, and found in Greek philosophy and the Roman law the forms by means of which to give to the Christian principle the permanent ecclesiastical structure in which it was qualified as a leaven to penetrate the old world and erect the Mediæval Church in the new. The Reformation of the sixteenth century broke a part of these forms, but held fast another part. Ecclesiastical Protestantism has abandoned the ethical ideals of mediæval Christianity, which had become too obstructive fetters for a people that had reached its majority, in order that it might lead Christianity out of the Church into the world: but it has for the most part retained and further developed the old dogmas." This progressive discrimination of the divine from the human, which has characterized the past of Christianity, we may expect to be equally characteristic of its future. Christianity is thus not only a product of evolution in its origin, but is in its own history, like every other living thing, a subject of evolutionary development.

From the above outline, given largely in his own words, we can see the two leading points in Pfleiderer's harmony of science and religion. First, religion is to be treated according to the most vigorous methods of historical science; and second, history is to be interpreted as the expression of the divine Logos. The Logos is the principle of

harmony, the key to the whole situation. The first point is developed with considerable fullness in these essays, the second is simply assumed. The writer's attitude on this point, so far as the present work is concerned, is admirably expressed in the statement: "That the divine Logos rules in history is the sole pre-supposition of the faith which evolution sets up."

Is this doctrine of the Logos as the principle of immanent reason in the entire world process, an article of faith for philosophy as well as for science? Or can philosophy deduce the Logos from the phenomena of experience? Granted a complete causal rationality, does that involve necessarily a teleological rationality? If the universe is rational, is it therefore good? Incidental remarks, such as the following, show something of the writer's conception of the Logos: "The whole idealistic philosophy of modern times is nothing but the realization and confirmation of this conviction, that nature is set in order by the spirit and for the spirit as a subordinate medium for carrying out its eternal, ethical purposes. . . . For if the Logos, the rational, purposeful thought of God, is the creating, regulating, and ruling power over nature, then nature is an orderly system of purposes, and its process of becoming is a development from lower purposes to higher. . . . This is the perception of the world, corresponding to the essence of Christianity, and logically to be derived from its principle; it is an ethical idealism which is one with a sober realism, and as remote from abstract Jewish supernaturalism as from abstract pagan naturalism."

One could wish that the volume contained an essay or two by way of demonstration, or at least justification of the Logos idea. The other aspects of the problem are treated in such a comprehensive, sympathetic, and perspicuous style that the reader cannot but regret that this, the more philosophical aspect of the problem, has been passed over. Taken as it is, however, the volume is a notable contribution toward the solution of one of the greatest problems of human thought.

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Wirtschaft und Philosophie. I. Die Philosophie und die Lebensauffassung des Griechentums auf Grund der gesellschaftlichen Zustände. Von DR. ABR. ELEUTHEROPULOS, Privatdozent an der Universität Zürich. Berlin, Ernst Hofmann & Co., 1900.—pp. xiv, 382.

In the book under discussion Dr. Eleutheropulos attempts to establish a double theory. In the first place, he regards philosophy as fundamentally nothing more nor less than a conception of life, a *Lebensauffas-*

sung, while the definite hypotheses with which it is united, are merely various forms of demonstration. Secondly, there is a close connection between this general point of view and the economic conditions prevalent at the time of its origin; in other words, the history of philosophy is chiefly important as a history of civilization and culture.

It is a little difficult to discover exactly what the author means by *Lebensauffassung*. At times he seems to identify it with the more general term *Weltanschauung*, and at others it can hardly be distinguished from preference for some particular form of government. In the light of the whole book, it may perhaps be defined as the general attitude toward life, which, in itself indistinct, and with almost no characteristics that can be described, is yet determinative of all the more definite opinions and involuntary attractions and repulsions. For instance, the early Ionian *Lebensauffassung* is defined as follows: One lives because one does live, and for the sake of enjoyment. Such a point of view, brought about by economic conditions that occasioned an almost universal freedom from poverty, in its turn caused a lack of interest in political events, a deliberate turning aside from the vexed questions that troubled the Athenians from the very beginning, and a complete devotion to the pursuit of pleasure. The lives of the Ionians were given up to the enjoyment of the moment, and their views of life corresponded to their experience. Later, when the economic conditions had changed for the worse, and they were no longer able to continue their old mode of life, they perforce adopted a different *Lebensauffassung*.

That such a theory brings with it a radical change in the conception of the history of philosophy is evident; and yet, as Dr. Eleutheropulos points out, there have been many indications evidencing an advance in the direction of such a change. The fact that history and philosophy are always viewed in the same light, is doubtless due to a dim recognition of the dependence of the latter upon mode of life. At any rate, the history of philosophy and history proper have passed through the same phases together. For instance, whenever the one has been viewed teleologically, the other has met with a like fate. With Hegel, in consequence of his theory of development, the philosophizing individual is merely a moment of reality, a tool in the hands of the world-reason, coming to consciousness of itself. This standpoint, in even a more pronounced form, finds its realization in Erdmann's history of philosophy, where individuality is almost lost sight of in the general problem of the development of truth. Fischer, on the other hand, puts complete individuality in the place of the Hegelian absolutism, and the

increasing attention now paid to the biographies of philosophers is a step in the right direction.

Nevertheless, a due regard to the worldly circumstances and habits of the creator of a philosophical system is not sufficient. The discoveries and changes of the closing century are of a nature to bring about great disturbances in traditional opinion, and two of these are of importance for philosophy; (1) the scientific theory of evolution with its logical consequences, and (2) Marx's materialistic theory of history, which is the economic conception of becoming applied to the department of history. The adoption of a like conception in philosophy is justified by the facts, since such a theory explains them more adequately than any other does or can.

The previous idea of philosophy, the author continues, is not only insufficient as an explanation of philosophic thought, but is in itself false. Every new condition, every new combination of economic and social relations, not only modifies the traditional standpoints with regard to life and the world, but gives rise to entirely new ones. The philosophy of any age is determined by the needs of society at the time. Thus the materialistic conception of history gives the key to the understanding of the different forms in which philosophy, regarded as *Lebensauffassung*, has manifested itself. In so far, however, as philosophy is more than this, that is, in so far as it appears with a definitely determined content, it is the product of the philosophizing individual, and obtains its special form from his personality and the extent of his knowledge. A Pythagoras makes use of metaphysical theories of harmony and number; an Aristotle, not only of metaphysics, but of logic and the natural sciences. The economic relations of society furnish the necessary ground for development in the life of a people; the more positive characteristics of the development are the work of individuals, conditioned by country and nationality, by existing needs and by personalities.

In the introduction to his book, Dr. Eleutheropulos points out two results that necessarily follow from the theory which he advocates. The first is that there is no development of truth to be discerned in philosophy; the second, that any attempt to make philosophy scientific must end in discarding all previous systems. Both implications seem too self-evident to need discussion, with the understanding, of course, that no reference is intended to definite objective investigations, no matter how closely the latter may have been historically connected with philosophy proper. Physics and logic, for instance, have a value that can be measured objectively, while philosophy, as *Lebensauffassung*,

has none. Another result of the theory in question, which by the way its author wishes to have known as the Greek theory, is that it makes ethics prior to the other philosophic disciplines, including metaphysics. It would seem that anyone who is prepared to accept the theory itself, could have no objection to such a rearrangement of the logical order of the different branches of philosophy, and, apart from any intrinsic merit that the theory may have, it certainly does possess great classificatory value. Through its means philosophy is no longer set apart, but, as with the Hegelian, is made subordinate to the treatment of history as a whole.

So much for the statement of the theory with its implications. The question now arises, in how far may it be regarded as successful? Does it convincingly and adequately explain the history of philosophic thought? That philosophy is at basis *Weltanschauung* will hardly be disputed; but one may well hesitate before one explains all metaphysical theories, for instance those of the ultimate nature of the universe, as an attempt to prove some particular form of *Lebensauffassung*, using the latter term in its narrowest sense. That both here and in his view of the importance of economic conditions, the author has a large measure of the truth on his side, must be recognized. Unfortunately, however, he tries to prove too much. Not content with having emphasized an important factor, he endeavors to make it the only factor operative. To be sure, it may be that a reluctance to trace all philosophy back to economic conditions is the result of prejudice, a remnant of the old feeling that no good thing can come out of the sordid side of life. If all mortality is merely one of the means by which the animal is enabled to preserve itself against competition, perhaps philosophy is no more than an attempt to justify the kind of life preserved. There seems to be no way of proving the matter. One must accept the theory that on the whole seems to square best with the whole series of facts to be explained.

It is exactly here that Dr. Eleutheropulos wishes the value of his theory to be tested. He appeals to his detailed treatment of specific problems as the best confirmation of his general position. The present volume is the first of a series of histories of philosophy which he proposes to write, and in it he considers the history of Greek philosophic thought from the prehistoric period until the time of the Roman conquest. In accordance with his primary assumption, the book is an account of Greek civilization rather than of philosophy in the ordinary sense of the word. After discussing the influence of climate, geographical situation, and the like, as manifested in the whole life of the

people, he passes to the more detailed treatment of the different periods. Here he meets with almost too much success. It is hard to believe that everything was so simple as he represents it. Moreover, where facts are wanting, as they often are, especially with regard to the pre-Socratic period, he supplies them on the basis of what his theory says they ought to be. For instance, in the face of all evidence to the contrary, he categorically denies that the Ionian philosophers concerned themselves preëminently with the external world, maintaining, on the contrary, that the physical theories were used by them only to prove certain views of life, the outline of which he later gives. He explains (pp. 38, 39) Aristotle's failure to mention the more general but fundamental positions, by supposing that the latter was concerned only to show the development of the different branches of knowledge, without regard to any relations they might have to the other occupations of the philosophers in question. It may be that such an interpretation is perfectly possible; but when Dr. Eleutheropulos attempts to show that Aristotle would have agreed with him, in recognizing that all philosophy is a question of *Lebensauffassung*, we can hardly accept his contention. He quotes the two passages upon which he says the ordinary view of the Ionian school is based (Met., XIV, 4, 1078b, 17, 27 and Part. Anim. I, 642 a, 24), and finds in them not a direct statement, to be sure, but an implication in his favor. One hesitates to criticise the author on such a point as this, for he is a Greek himself, and says that it requires only a little feeling for the Greek language to understand that the ordinary interpretation is wrong, and that Aristotle is really trying to show merely the different modes of proof employed to justify various ways of viewing life. Nevertheless, the writer must confess to having so little feeling for Greek as to be absolutely incapable of seeing any such implication in the passages in question. If one takes Aristotle's account simply as it stands, without regard to anything that it may imply, there is certainly no evidence concerning the general view of life held by most of the Ionian philosophers; and when one considers the scanty nature of our knowledge of the beginnings of Greek speculation, it hardly seems fair to throw aside in the interests of any theory the best and sometimes the only authority remaining to us. Even the most excellent of theories will break down, if required not only to explain the facts but to supply them also.

When sources of information are more plentiful, the author meets with much better success. His account of the activity of Socrates, and, in fact, of all the philosphers whose tendencies were mainly in the direction of ethics, is almost convincing. It would be altogether

so, if one could forget the existence of the Platos and Aristotles, who at any cost must be made to fit the same measure. The second volume, which is to begin with the early Christian philosophy, ought from the nature of the case to be still more successful. Whether it is or not, the whole attempt is one that cannot be ignored. It deserves thorough discussion and careful consideration by those best fitted to judge of its value; and whatever their final verdict may be, the book itself was worth the writing.

GRACE NEAL DOLSON.

Philosophische Abhandlungen Christoph Sigwart zu seinem siebzigsten Geburtstage 28 März 1900 gewidmet. VON BENNO ERDMANN, WILHELM WINDELBAND, HEINRICH RICKERT, LUDWIG BUSSE, RICHARD FALCKENBERG, HANS VAIHINGER, ALOIS RIEHL, WILHELM DILTHEY, EDWARD ZELLER, HEINRICH MAIER. Tübingen, Freiburg i. B., und Leipzig, J. C. B. Mohr (Paul Siebeck),—1900. pp. 248.

This interesting volume, dedicated to Professor Sigwart of Tübingen, who is well known to English readers th.. gh the translation of of his excellent treatise on Logic, contains essays from a number of the best-known philosophical scholars of Germany. Apart from its significance as a *Festschrift*, it has an especial value and interest for readers outside of Germany, since it may be fairly regarded as to some extent indicative of the philosophical tendencies of that country at the present time, and as showing the general lines along which solutions of the more important problems are sought. The following are the titles of the various essays, corresponding in order to the names of the authors given above:—Umrisse zur Psychologie des Denkens; Vom System der Katagorien; Psychophysische Causalität und psychophysischer Parallelismus; Die Wechselwirkung zwischen Leib und Seele und das Gesetz der Erhaltung der Energie; Zwei Briefe von Hermann Lotze an R. Seydel und E. Arnoldt; Kant—ein Metaphysiker?; Robert Mayer's Entdeckung und Beweis des Energieprincipes; Die Enstehung der Hermeneutik; Ueber den Einfluss des Gefühls auf die Thatigkeit der Phantasie; Logik und Erkenntnistheorie.

Professor Benno Erdmann's contribution to the psychology of thinking touches a field with which modern psychology has dealt but little, but which promises rich results to careful investigation. In conjunction with Dr. Raymond Dodge, the author published a year or two ago an extensive study on the psychology of reading; and the

results of that study are freely used in the present paper. Wherever there is a clear connection of ideational elements there is also united with it a verbal process which really belongs to the nature of the judgment. Now, the chief importance of Professor Erdmann's study seems to me to consist just in his emphasis on the influence in the thinking process of the unconscious and usually unnoticed verbal connections, as shown especially through memory dispositions.

The second paper is an essay on a system of categories by Professor Windelband. In this the author, following to some extent the lines of Kant and his successors, attempts to show the various ways in which it is possible for the manifold to be connected through the synthetic unity of consciousness. "We can only find a principle for the system of categories if we set out from the fact that the categories, both in the judgment and in the concept, are nothing but the forms of relating thought, and if we develop the possibilities contained in the synthetic unity of the manifold and discover the conditions for the fulfilment of this function" (p. 47). It is impossible here to analyze the author's argument in detail, or to follow the divisions and relationships which result from the working out of his principle; but I wish to remark that his paper is exceedingly well thought out, and the results seem to me to be of permanent value.

The third and fourth essays—by Heinrich Rickert and Ludwig Busse respectively—deal with the vexed question of the relation of body and mind. Dr. Rickert's paper falls into five parts. He says in outlining his programme: "In this critique I set out from the logico-epistemological point of view, and point out in the first place the motives which have lead to the rejection of psycho-physical causality and the substitution of parallelism. They are found in the mechanical conceptions of nature (I). Then I attempt to show that parallelism, however one may think of it, is incapable of being carried through in the form in which it must be assumed as a substitute for psycho-physical causality (II). And, further, I explain why parallelism cannot lead to a satisfactory solution of the question (III). . . . With the preceding the exposition of the standpoint from which the *possibility* of an intelligible view of psycho-physical causality is connected (IV); and, finally, a short sketch will be given of the reasons why the assumption of psycho-physical causality is to be regarded as necessary" (V) (pp. 61, 62). In carrying out this programme, the author argues that if the psychical world is to be taken as really parallel to the atom-complex by means of which science conceives the world of bodies, it will be necessary (1) to separate in the former field, as in the latter,

the essence from what is immediately given, and (2) to reduce all qualitative differences of the mental atoms to quantitative terms (p. 74). The difficulties in the way of adopting the theory of causal interaction disappear, the author thinks, as soon as we clearly recognize the methodological character of both physical and psychological science. "We must hold fast to the fact that both physics and psychology are *special* sciences which only come into existence through a separation of qualities from quantities, that this separation further signifies merely a conceptual isolation of elements which are always really connected, and that for this reason the physical and psychical concepts, created in the interest of special investigation, must lose their validity as soon as an attempt is made . . . to understand reality as a whole, as a unitary system" (pp. 76, 77). Thus it is only within the conceptual system which the physical sciences construct, that the formula, *Causa æquat effectum*, has any validity. When this is understood, and the true limitations of the quantitative view recognized, it is seen that the grounds which led to the abandonment of psycho-physical causality, and to the adoption of parallelism have been entirely removed (p. 84). With the proof of this position the author's main purpose in the present paper is complete. He does not develop the positive arguments in favor of interaction, but contents himself with a reference to sciences like history which interpret reality without construing it in conceptual terms (*Wirklichkeitswissenschaften*). "Historical science must therefore not only assume in general a necessary connection between individual acts of will and individual bodily acts, because without this all action would lose its meaning, but this psycho-physical connection must be directly causal. For even if parallelism were capable of being carried out, it could never replace the individual form of the psycho-physical causality manifested through history" (p. 87).

Professor Busse's paper is devoted more particularly to a discussion of the question as to whether the assumption of causal interaction is consistent with the law of the conservation of energy. He criticises with much acuteness, and in my opinion shows the absolute futility of the attempts made by Stumpf, Rehmke, Wentscher, and others to reconcile conservation with interaction by the hypothesis that a physical cause may, without the expenditure of energy, produce a psychical effect in addition to the physical change which follows from it, and in which its full equivalent of energy is to be found. He himself, however, regards the difficulty as due to an unwarranted extension of the law of conservation of energy. That law, he asserts, does not maintain that the amount of energy in the universe remains constant, or

that no energy ever appears or disappears. But with Lotze (to whom, however, he does not refer in this connection) he regards the law as merely a transformation-formula, having reference to the exchange of energy between the members of a system which is not necessarily closed to the influence of what lies outside of itself. "The principle of energy, we may say, is like the statutes of a society which regulate the intercourse of its members with one another, and to which everyone is subject who enters into it. These statutes do not however claim to govern the relations of its members with those who stand outside of the society, or even to furnish the law for those who have ceased to be members. The view of the principle, on the contrary, against which I contend, would have to be compared to a statute which claimed to have universal authority" (p. 125).

It is interesting, in connection with the two papers which have just been analyzed, to read Prof. A. Riehl's illuminating account of Mayer's discovery and proof of the law of the conservation of energy. Perhaps the fact most forcibly impressed upon the reader of this essay is that of the difference between the method by which a law is discovered and the steps by means of which it is proved. A paper from the veteran Zeller dealing with the influence of the feelings on the imagination proves the versatility of the distinguished historian of Greek philosophy, and shows that he still preserves all the vigor of thought and expression which characterized his younger days. As I wish to refer at some length to Professor Vaihinger's paper, I am forced to pass over these essays with a mere mention, as well as Professor Dilthey's treatment of the growth of hermaneutics, and Dr. Maier's valuable discussion of the relation of logic and epistemology.

Vaihinger's treatment of Kant as a metaphysician grows out of the prominence which Paulsen has given to the more positive side of Kant's doctrine in his book in Fromann's Series of Philosophers. This book, it will be remembered, was reviewed by Vaihinger in this journal (May, 1899). In general, the criticism of Paulsen to be found in this essay is an expansion of the view there indicated; but an element of great additional interest is here found in a comparison, carried out with great skill, between Plato's use of the myth and Kant's position regarding the Ideas of Reason. Whether one entirely agrees with the author or not, the comparison is exceedingly illuminating. It serves, as the author says, "to explain Kant by reference to Plato and perhaps also Plato by means of Kant." We shall let the author speak for himself but shall have to restrict the quotations to the illustration of one or two points in the parallel which he draws. "Plato, as is well known,

likes to enliven the representations of his doctrines through poetical figures which he himself characterized as μῦθοι: of especial importance are the myths in the Timæus concerning the formation of the world by the divine demiurgos, the myths of the Phædrus concerning the preëxistence of the soul and its free choice in this previous state, and the myths of the Republic which have reference to the immortality of the soul—God, freedom and immortality, are thus always the chief themes for Plato as for Kant" (p. 150). Again, "Paulsen always refers to the fact that Kant restores the ideas of God, freedom and immortality, whose theoretical proof as given by dogmatism he had rejected, by making them necessary postulates of ethics. . . . But in many places Kant introduces a peculiar reservation which does not appear in Paulsen's exposition. We must, Kant says, regard the matter 'as if' it were so; we must recognize the mere 'analogy' in the case. . . . What Kant brings forward with his favorite formula 'as if' how strongly it reminds us in many respects of the Platonic μῦθοι" (p. 154). "The critical element in Plato shows itself especially in the fact that he recognizes that with regard to the last and highest problems only metaphors remain to us, or as Kant says analogies. This view Kant held not less strongly than Plato" (pp. 156, 157).

This is not the place for an extended criticism of these views, and indeed one must acknowledge the force and truth in many respects of the parallel which this distinguished Kant scholar has drawn. And yet it does not seem to me that it adequately represents Kant's attitude towards metaphysics 'with which it was his fate to have fallen in love.' Great as was his care to deny that the Ideas of Reason could be *theoretically* proved, he never, it seems to me, had the slightest doubt of their objective reality. His doubt seems always to have reference to the nature of theoretical cognition, and to leave the certainty of the object untouched. Though on the theoretical plane we can only point to analogies which fall short of certainty, the practical reason furnishes a certainty which is not based on metaphors, or in any way dependent on the imagination of the individual.

J. E. Creighton.

Interpretations of Poetry and Religion. By George Santayana. New York, Charles Scribner's Sons, 1900.—pp. x, 290.

The preface to this little volume will hardly be reassuring either to the general reader, for whom it seems largely intended, or to the philosophical student. We are informed that the ten essays of which

the book is composed, written at various times and already partially printed, are here presented together in a revised form in order to develop a single idea. "This idea," we are told, "is that religion and poetry are identical in essence, and differ merely in the way in which they are attached to practical affairs. Poetry is called religion when it intervenes in life, and religion, when it merely supervenes upon life, is seen to be nothing but poetry." The conclusion is not far to seek. The author himself says: "It would naturally follow from this conception that religious doctrines would do well to withdraw their pretension to be dealing with matters of fact." And he adds: "This theory can hardly hope for much commendation either from the apologists of theology or from its critics. The mass of mankind is divided into two classes, the Sancho Panzas who have a sense for reality, but no ideals, and the Don Quixotes with a sense for ideals, but mad."

The merely orthodox reader will at once conclude, altogether too hastily, that what follows can only be an attack upon religion itself, while the more hardened philosophical or theological reader will refuse to be shocked, or even much interested, until he learns what the author means by 'poetry,' 'religion,' and 'matters of fact.' Indeed, as might be expected, this is one of the many cases in which a given thesis loses much of its paradoxical character, when the terms used are found to be understood in a somewhat special sense. But even so, there are difficulties, evident enough from the start, which are by no means removed by the author's later explanations and arguments. With all due respect to the many who accept Matthew Arnold's too convenient formula, poetry, or at least what we nearly all agree in regarding as such, is by no means necessarily a 'criticism of life,' and oftentimes such a designation must be regarded as grotesquely inappropriate. It may even be doubted whether the legitimate subject-matter of poetry is not almost as various as that of literary prose, though not of course usually identical with the latter. But if religion is to be assimilated to poetry, poetry must be understood in a sense much more restricted than even that suggested by Matthew Arnold's formula. It must not merely be a 'criticism of life,' but must embody ultimate ideals, supposed to be of nothing less than supreme worth. Moreover, religion itself, whether or not it be supposed to depend upon particular historical facts, must, *qua* religion, claim an objectivity which is not sufficiently provided for in the author's formula. In other words, religion, even in its least dogmatic forms, must always be, not merely a sentiment or a form of poetic appreciation, however exalted, but a faith.

But one would greatly mistake Dr. Santayana's attitude, if one should suppose that he was concerned to maintain a merely positivistic attitude toward religion. His æsthetic sympathies, at any rate, are not only with the traditions of the church, but with Catholicism. And he not infrequently appears to admit the importance of dogma in religion in a way that is hardly consistent with his principal thesis. For example, he says of the connection of Christianity with Judaism: "That connection . . . gave Christianity a foothold in history, a definite dogmatic nucleus, which it was a true instinct in the church never to abandon" (p. 82). Later he adds: "Now, the great characteristic of Christianity, inherited from Judaism, was that its scheme was historical. Not existences but events were the subject of its primary interest" (p. 90). And finally: "The origin of Christian dogma lay in historic facts and in doctrines literally meant by their authors" (p. 107). All this, to be sure, is in the essay on "The Poetry of Christian Dogma," and in a context which perhaps has not been sufficiently indicated; but such passages would seem to imply, what surely must be admitted by everyone, that the faith which is essential in all religions must, for the believer himself, be something very different from mere poetic appreciation or even moral approbation. In such discussions, one must be particularly careful not to rest content with a purely external view of religion, which it would be almost impossible for the believer himself even to understand.

But while, to the present writer, the main thesis of the book seems by no means to be satisfactorily proved, the essays, taken by themselves, are nearly always interesting, and often highly suggestive. The tone of the author is uniformly quiet and thoughtful, and his sympathies are much wider than might at first appear. In truth, the book is about as far as possible from being a flippant attempt to vindicate a paradoxical thesis. Moreover, there is a genuine literary quality in the style which makes the essays something very different from what they would otherwise be; for, as the author himself happily remarks: "Expression is a misleading term which suggests that something previously known is rendered or imitated; whereas the expression is itself an original fact, the values of which are then referred to the thing expressed, much as the honours of a Chinese mandarin are attributed retroactively to his parents" (p. 264).

Two of the essays, by no means the least interesting or important, might at first appear to have a rather loose connection with the rest of the book. These are on "The Poetry of Barbarism" and "Emerson." The latter essay does not, perhaps, call for special remark,

though it would be difficult to mention a saner estimate of the 'Transcendentalist' poet-philosopher. Those who still persist in finding a more or less definite nucleus of philosophic doctrine in Emerson's writings would do well to read this essay with some care. Yet the author, to whom 'disorganization,' whether in the intellectual or in the æsthetic sphere, is most repellent, brings out with singular felicity the aspects of Emerson's thought which appear to have a permanent significance, and does not, as one might have expected, emphasize too strongly which was merely the most striking expression of that rather juvenile ferment of thought misnamed 'Transcendentalism.'

The essay on "The Poetry of Barbarism" is a good deal less of an appreciation and correspondingly more of an adverse criticism. The conventional admirer of Browning will be rather startled to find that poet bracketed with Walt Whitman as one of the two typical exponents of 'barbarism' in modern poetry; but, while Dr. Santayana can by no means be said to maintain the judicial attitude in this elaborate and, on the whole, much too severe criticism, it must be conceded that he finds a good deal to say in support of his own position. In truth, of late there has been altogether too much praise accorded to that quality in certain modern, and some very recent, writers, which is somewhat vaguely termed 'virility.' One purpose of this rather eccentric, but at the same time really suggestive, chapter appears to be to show, in a way that even the most ardent admirers of this contemporary tendency cannot wholly fail to understand, that neither vehement passion nor mere obstinate persistence in the pursuit of arbitrarily chosen ends is an adequate test of strength or worth in human character, and that the expression of such untutored feelings and volitions is not necessarily the highest province of literature. So far, at least, one can most heartily agree with Dr. Santayana, who has a very just appreciation of that essential sanity which is as necessary in the realm of art as in that of discursive thought. Moreover, if, as already indicated, the author's criticism of the greatest Victorian poet is extremely one-sided, it is also very penetrating, as far as it goes. If the literary canonization of Browning were really imminent, as some of his less discriminating admirers would still appear to imagine, a critic like Dr. Santayana would prove himself only too effective a devil's advocate.

A few sentences from the final paragraph of this chapter may, perhaps, properly be quoted by way of conclusion, since they conveniently indicate the author's own standpoint. "In every imaginative sphere the nineteenth century has been an era of chaos, as it has been

an era of order and growing organization in the spheres of science and of industry. . . . Perhaps fate intends that we should have, in our imaginative decadence, the consolation of fancying that we are still progressing, and that the disintegration of religion and the arts is bringing us nearer to the protoplasm of sensation and passion. . . . If once, however, this imaginative weakness could be overcome, and a form found for the crude matter of experience, men might look back from the height of a new religion and a new poetry upon the present troubles of the spirit; and perhaps even these things might then be pleasant to remember" (pp. 215, 216).

ERNEST ALBEE.

SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *American Journal of Psychology*; *Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie*; *Int. J. E.* = *International Journal of Ethics*; *Phil. Stud.* = *Philosophische Studien*; *Rev. Ph.* = *Revue Philosophique*; *R. I. d. Fil.* = *Rivista Italiana di Filosofia*; *V. f. w. Ph.* = *Vierteljahrschrift für wissenschaftliche Philosophie*; *Z. f. Ph.* = *Zeitschrift für Philosophie und philosophische Kritik*; *Z. f. Ps. u. Phys. d. Sinn.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*; *Phil. Jahr.* = *Philosophisches Jahrbuch*; *Rev. de Mét.* = *Revue de Métaphysique et de Morale*; *Ar. f. sys. Ph.* = *Archiv für systematische Philosophie*.—Other titles are self-explanatory.]

LOGICAL AND METAPHYSICAL.

Evolution and Immortality. A. H. LLOYD. Monist, X, 3, pp. 387–421.

Evolution, if consistent, must view life not as a local and temporal endowment, but as an affair of a universe spatially and temporally indivisible. So viewed, life includes and unifies all parts of man's nature, and frees immortality from dependence on wholly separate unworldly souls. Individuality, too, is transfigured, depending not on separate existences but on relationship. So evolution implies relationism and monism, while creationism, opposed to evolution, implies pluralism and dualism. For creationism immortality is absolutely another and after life; for evolution "now is the accepted time," *this* life is the immortal life. Christianity is open to monistic, evolutional interpretation.

But more clearly to understand evolution and immortality, to find the real meaning of the yonder and the hereafter and the other, one needs to examine space and time and matter. For modern thought, then, the spatial and temporal, instead of being opposed to the real, is intimate with the real. Space is not composite or divisible, for its parts are in and of each other; and similarly of time and the parts of time; not statically, of course, but dynamically the parts of space—or of time—are coextensive. The calculus, to which we owe the dynamic view, by its use of the infinitesimal testifies to this active coextension of parts. Accordingly, the local is not the isolated but the related, and is, therefore, in a genuine sense omnipresent, and in like manner the momentary is also eternal, and upon the omnipresence of the local and the eternity of the temporal rests the already asserted intimacy of the spatial and temporal with the real. Furthermore, space and time are intimate with each other, for the coexistences of space make the temporal eternal, while the sequences of time make the local omnipresent. Witness the current doctrines of recapitulation and environment, of memory and foresight, and of motion and force. For physical science today force is the necessity of motion, and motion is in and of space, not of something in space. But these two inseparable intimacies make reality organic and so at once material and spiritual. In

the conception of organism, due not less to physics than to psychology, not less to mathematics than to biology, matter—the divisible—and spirit—the indivisible—are made one; as inseparably one as the divine and the human in its most directly human example, the brotherhood of man. In reality, moreover, as organic, we see that which changes but never dies, which changes but at the same time conserves every part of itself. The composite and divisible may decompose, and decomposition is death, but the organic is spatially and temporally indivisible. The organic, then, is a constant triumph over death, even over the death of individuals, and also over their birth. Individuality, *real* individuality, even as Christianity seems to declare, is not begotten nor does it die. The conditions of space and time only 'transmute' it.

To practical life the meaning of the foregoing is that all those manifold relations, which give life its worth and make us that live real, are, like the whole to which they one and all belong, organically indivisible. We often speak of the unity of nature or the unity of life, but we may speak also of the unity of motherhood or the unity of friendship; and in such unities lie our own immortality and that of our fellows. Is it a conscious immortality? It cannot but be conscious, for consciousness, affair as it must be of an indivisible universe, is coextensive with life. To argue that the absence of memory in infants or the lack of communication with the dead is evidence at least of consciousness being subject to birth and death, is simply to show a misunderstanding of memory and of communication in general. Memory is never literally of the past. The other world, the spiritual world, really does communicate with the life that is, but in and through it, not from without to it.

Finally, the evolutional view of immortality has important consequences for the interpretation of history, as well as for the more personal interests and relations of mankind. For evolution the immortality of one's kin and one's friends, as well as one's self, is in the very life and consciousness that continues among men; and, as regards the interpretation of history, this can mean simply that the life of the past and the life of the present must really be treated as one, not two. The persons of the past are not fixtures independent of the current of history, rather, they have lived and moved with it, and are still alive and conscious in the activity of today, as if our own past selves. We live with them and they in us. Moreover, apparently in this sense Christianity is now thinking of the living Christ, and, in general, evolution does interpret the different doctrines of Christianity, the conception, the resurrection, the divinity, the sacrifice, the immediacy of the kingdom of heaven, and the brotherhood of man.

AUTHOR.

Professor Münsterberg as Critic of Categories. R. B. HALDANE. Mind, No. 34, pp. 205–217.

From Kantianism flowed two streams of philosophy, that of Hegel, and

that of Schopenhauer. To the former experience was a whole, and existed for the subject as the ultimate reality. To the latter experience existed for volition, and ultimate reality was to be found in practical rather than theoretical activity. The term existence, then, imparts to the former an object for intelligence, and to the latter an object or end for the will. Münsterberg in *Psychology and Life* adopts the point of view of will as ultimate reality, and so identifies himself with Schopenhauer. His position then is novel only in this, that he is the first to attempt a systematic criticism of categories from the point of view of will as the Hegelians had attempted from the point of view of reason. The sciences, he says, proceed by abstraction, each under its own category. Psychology deals abstractly with sensations regarded as atomistic elements. As such it can never attain to the reality of life, the real will itself. And similarly with other sciences which deal with phenomena which are external to consciousness. Psychology then will be of but little value to those who deal with real life, such as the teacher and the historian. To think that life can be interpreted in terms of our science would be psychologism, while to force upon science the views of real life would be mysticism. Each interpretation has its own proper place, though the will side of reality is ultimate. The psychologist then does not investigate the real will, but a highly artificial substitute of it. This leaves the real will, as with Schopenhauer, blind and unintelligible. But in reaching this conclusion reason has been employed, and logical thinking has been assumed as valid. Hence the difficulty of building on any other foundation than reason. This is the weakness of the Schopenhauerean position, and we can only hope for a completion of Hegel's view to guide us to the true nature of ultimate reality.

A. W. CRAWFORD.

Hegel's Treatment of the Categories of the Idea. J. ELLIS MACTAGGART. Mind, No, 34 pp. 145–183.

The Idea is divided into stages entitled Life, Cognition, and the Absolute Idea. Life applies not only to living beings, but to all reality. The unity required by the category of Life must be such as to provide for plurality. The unity must be complete in each individual, and yet must be the bond which unites them. It must be *in* the individuals and also *for* the individuals. This leads to Cognition, in which alone this becomes possible. But consciousness would be a better name than cognition. Only in consciousness can there be a unity which is at once the whole of which the individuals are parts, and which is also completely present in each individual. This category, however, seems rather a synthesis of the difficulties of the former category, Life, than an antithesis, as it should be by its place in the triad. But the subordination of the triadic form does not impair the validity of the transition. Cognition is, then, the true synthesis of the contradictions of life. But its unity is not itself con-

scious, for the individuals do not need to exist for the unity, because the unity is not different from all the individuals together, and there being nothing outside the unity, it would have nothing to cognize. Lotze, however, says it cognizes itself. Hegel errs in taking the category of Life to imply a plurality of living beings, for here we have only an aggregate, and not an organic unity. A real harmony and unity of the individuals appears when we reach Cognition. In Cognition proper the aim of the subject is to reproduce in itself the state of the world at large. Volition means a sense of approval of objective reality as in harmony with our desires. So in the *Larger Logic* this category is called the Idea of the Good. This asserts, then, that the unity reproduces the nature of the individual. But Volition cannot completely reconcile the individuals and the unity. Hence another category, the Transition to the Absolute Idea, which Hegel does not specially mention. To insert this is necessary for clearness, though being at the end of the dialectic, it is identical with the next category the Absolute Idea, and as such requires no separate treatment. The Absolute Idea alone has complete objective reality, and this reality is a differentiated unity. There are no contradictions here, and so no need of any further category. There is, however, an imperfection, and this drives Hegel on from pure thought to a Philosophy of Nature, and finally to a Philosophy of Spirit. In the Absolute Idea we find the individuals and the differentiations as constituting reality, or rather as constituting the immediate centers of differentiation, and the relations which unite and mediate them. Reality has been taken to be one or other of these. Green took it to be the latter. But to the dialectic reality consists of immediate centers which are mediated by relations. This must be one of the forms of consciousness, and is rather emotion than knowledge or volition. In emotion only do we find that absolute balance between the individuality and the unity, and the individual separateness which is necessary for reality. What Hegel's own view was seems rather doubtful. The Logic would seem to point to emotion, and the Philosophy of Spirit to knowledge. The two elements, however remain, the unity, or that which gives to experience a *must*, and the special natures of the individuals which it unites, and which give to experience its *is*.

A. W. CRAWFORD.

On the Nature of Scientific Law and Scientific Explanation. THOMAS MCCORMACK. Monist, X, 4, pp. 448–572.

We are concerned here with a study of the concept of natural law, and with the nature of scientific explanation in general. Like all other things in nature, the concepts of natural causality and natural law are products of evolution. Pythagoras was the first to appreciate the place which the laws of form play in any philosophical explanation of the world. But the Greeks lacked one thing which was essential to the rapid development of physical principles, and that was what moderns call mathematical

analysis. "With the development of arithmetic, algebra, and modern analysis a new sphere of experience was unrolled, and its conquest has marked the establishment of the concepts of law, of causality, and of determinism in science, until finally the whole development culminated with Leibnitz and John Bernoulli in the notion of a function." It remained for the successors of Descartes to extend to nature in its entirety his conception of the union between geometry and algebra.

The problem for science is equivalent to what in mathematics might be called "the search for the *form* of the function," by which through mere mechanical manipulation dependent variables may be determined from independent variables. There is or there is not a discoverable connection between certain given events of nature. It is the business of the scientific inquirer to discover the *form* of that connection. The law of falling bodies and the law of refraction, two simple instances of actual scientific laws, involve special features of the economy of thought, prophesy of the future, and reconstruction of the facts of the past. "The element of comparison is at the basis of all scientific explanation. Bare description does not necessarily constitute the essence of science, and scientific description understood in its highest and in its lowest sense, always proceeds by comparison." The conception of scientific explanation, which makes of it a *description* of nature, involves an elimination of the metaphysical elements from science, economy and simplicity of the notions of science, and the power of reconstructing nature. All scientific systems, all so-called natural laws, are intellectual devices for reproducing the course of nature in the imagination. According to the view of the writer of this article, scientific explanation is itself a natural phenomenon. "Thus dualism is eliminated, and the conformity of the mind to the world appears as the natural conformity of two coördinate parts of the same consistent and orderly whole. Science takes its rise as the forms of life have taken their rise, by the adaptation of the mind to its environment."

L. M. ALDRICH.

Sur la géométrie numerique. A. CALINON. Rev. Ph., XXV, 6, pp. 614–620.

Heretofore the science of geometry, says M. Calinon, has been based entirely upon the principle of geometrical equality, that is, two figures have been called equal to one another if they coincide when one is superimposed upon the other. Two equal figures have been considered as two different positions of the same figure. This, however, gives no absolute standard of measurement. Therefore the new or numerical geometry rejects the principle of geometric equality, and replaces it by the principle of numerical or relative equality. It takes as its base a numerical definition of distance—which then becomes, for all practical purposes, an absolute standard—and from this it deduces all its propositions. For all measurements are purely relative. They depend upon the choice of some one

single thing as standard to which all other things of the same kind are then compared. Logically, the choice is arbitrary, but certain particular selections are made for the sake of the simplicity, elegance, and usefulness of the solutions which result from them.

GEORGIA BENEDICT.

PSYCHOLOGICAL.

The Nature of The Creative Imagination. TH. RIBOT. International Monthly, I, 6, pp. 648–675; II, 1, pp. 1–25.

By the creative imagination Professor Ribot means the power of producing mental images, for the most part motor, which realize themselves in the actual production of their appropriate bodily movements, both molar and molecular. Indeed, the motor image *is* but the actual bodily movement in an incipient stage, and may be either productive or inhibitory. This power of imagination is best illustrated by the phenomena of hypnotic suggestion, paralysis of ideas, healing by faith, etc. These phenomena, however, do not, as is commonly supposed, consist merely in the intellectual production of mental images, but have at least three factors, an intellectual, an emotional, and an unconscious. The importance of the second of these is seen in the fact that not all can be healed by faith, but only those who are actuated by an impassioned desire, aversion, emotion, or passion. It is in the emotional factor, as purely organic, that the *elixir vitæ* is really to be found: it is the emotion that makes the image motor. The creative element, however, is to be found in all three factors. Considered from the point of view of the intellectual factor, imagination involves two complementary processes, 'association' and 'dissociation,' and from the mutual and constant interaction of these two processes no act of imagination can be purely reproductive, purely redintegrative, but is always to some extent creative: new elements are added, old ones omitted, according as the unique moral, emotional, and bodily condition of the subject dictates for the moment. The essence of creative imagination, therefore, on its intellectual side, is the faculty of "thinking by analogy," that is to say, by partial resemblance, and, as much, it lies at the basis of all creative or inventive genius, whether in art, literature, or practical life. If now we turn to the emotional factor, we find that it too can function creatively in the production of entirely novel intellectual combinations. States of consciousness may unite, not because of contiguity or resemblance, but because they have a common affective tone. Joy, sadness, love, hate, etc., may, therefore, become centers of attraction around which images group themselves which have no logical connection, and thus an almost unlimited field for intellectual invention is opened up for us. Nor must it be supposed that this emotional factor is limited to the creative imagination of art and literature; it is also quite as prominent in mechanical invention, where it appears in diverse forms as joy, fear, hope, disappointment, satisfaction, etc.; no inventive act of thought is produced *in abstracto*, it is always tinged, and

sometimes deeply tinged, with emotion. By the unconscious factor in creative imagination Professor Ribot means all that is meant by the popular term 'inspiration.' Inspiration has two outstanding characteristics, suddenness and impersonality. In order to explain these characteristics Professor Ribot accepts the theory of mediate association, first propounded by Hamilton, and which, among the experimental psychologists, has been accepted by Scripture and denied by Münsterberg. Not only may we have single unconscious mediating ideas, but we may have groups of them. The influence of these groups upon our conscious states make it impossible for us to previse at any one time what path our conscious association will next take. It is in this absence of prevision that the impersonal and sudden character of inspiration consists.

In these three factors, then, we have the analysis of the creative imagination. Their principle of unity is to be found in focalized attention, a state of relative monoideism, which on the intellectual side becomes the fixed idea, and on the affective side the fixed emotion, or passion.

IRA MACKAY.

On the Psychology and Physiology of Reading. I. E. B. HUEY. A. J. Ps., XI, 3, pp. 283–302.

This is a record of experiments upon eye movements in reading, reading pauses, word perception, and the extent of the reading field. In considering eye-movements, the researches of Javal, Lamare, Landolt, and Erdmann and Dodge are briefly reviewed. The author's own experiments aimed to supplement and check the findings of these earlier investigators by the aid of a more efficient technique. The results show that in nearly all cases the eye moves over the matter read line by line. The eye seldom moves along the whole extent of the line, and the first fixation is usually nearer the beginning of the line than the last is to the end. The forward movements of the eye occupy a tolerably constant time almost irrespective of the arc traversed. As a rule the return movements are without a break. There is nothing to indicate that the rate of movement is under the control of the will. Regarding movement pauses, passages read at a maximum speed show a decrease in the length of the reading pause, and, as speed of movement is not increased it would seem that increase in speed of reading is brought about chiefly by decreasing the number of reading pauses. In considering word perception and the extent of the visual field, brief reference is made to the earlier work of Cattell, Goldscheider and Mueller, Griffing and Franz, and Quantz. Huey's preliminary experiments show that the first half of the word is much more important for word perception than the last half. In his later work he attempted to determine the extent of the matter which can be read at one fixation. Cattell's fall-tachistoscope was used in these experiments, and the time of exposure was in the vicinity of 0.01 sec. The author proposes to outline a word and phrase perception theory as opposed to a letter perception theory in a subsequent paper.

W. C. BAGLEY.

Disturbances of Apperception in Insanity. J. W. SLAUGHTER. A. J. Ps., XI, 3, pp. 303–312.

All studies of insanity from the psychological standpoint must deal, the author maintains, with disturbances of apperception. The doctrine of apperception, especially as developed in recent years by Wundt and Stout, is briefly outlined. By apperception is to be understood "a dual activity in consciousness . . . namely, the functioning of all the subordinate systems in the formation of a judgment, and the activity of the judgment, or the organization of consciousness as a whole in the reception of new sensations." The various forms of delusional insanity are then considered as disturbances of this apperceptive functioning.

W. C. BAGLEY.

Experimentelle Beiträge zur Lehre vom ökonomischen Lernen. LOTTIE STEFFENS. Z. f. Ps. u. Phys. d. Sinn., XXII, 5, pp. 321–382.

Miss Steffens's study involves the results of some very careful experiments carried on in Professor G. E. Mueller's laboratory at Göttingen. From a series of preliminary tests, she determined that the customary procedure in learning a given text 'by heart' involved the division of each stanza into parts, and the mastery of one division at a time, repeating the first few lines, then taking up another section and repeating the two together, and so on until the entire selection could be repeated without error. None of the subjects tested was in the habit of repeating the stanza as a whole until it was mastered. Miss Steffens then prepared an elaborate series of experiments to determine the relative value of these two methods of procedure. She found that in every instance the customary 'piecemeal' method was less economical than the procedure involved in repeating the selection as a whole until it was mastered. The reason for this lies, the author maintains, in the fact that an association is formed between the final syllable of one section and the initial syllable of the succeeding section, and that the procedure by the customary method tends to establish this association less firmly than the second procedure.

W. C. BAGLEY.

Elements of Conscious Complexes. MARY WHITON CALKINS. Psy. Rev., VII, 4, pp. 377–389.

The object of this paper is the "demonstration that every conscious experience may be treated as a content-of-consciousness, and analyzed into its constituent elements." The sensational or 'substantive' element is the first to be considered, and under this head qualities and intensities, as well as the conscious criterion which distinguishes them, are discussed. The affections are treated as 'attributive' elements. Under 'transitional' elements are included the conscious contents correlated with the verbal expressions 'different,' 'whole,' 'many,' more,' etc. These three classes of elements—substantive, attributive, and transitional—combine to form

complex conscious contents in which one or another of the elemental forms predominates. Thus the predominance of 'substantive' elements makes the complex either a percept or an image; when the 'attributive' elements predominate the complex becomes an emotion, a belief, or a volition; and when the 'transitional' elements predominate the complex is a 'feeling of wholeness' (the judgment), 'a feeling of familiarity' (the recognized or the remembered), or a 'feeling of generality' (the general notion).

W. C. BAGLEY.

The Personifying Passion in Youth with Remarks upon the Sex and Gender Problem. JAMES H. LEUBA. Monist, X, 4, pp. 536–548.

This systematic account of one instance of a remarkable tendency to personify and sexualize, not only numerals, and letters of the alphabet, but everything else as well, follows a brief statement of the sex and gender problem of philology. Seven is for the consciousness of Mrs. X, "a decorative old piece of bric-a-brac," the apple tree is a "devoted foster mother," and three and six, as also four and eight, "stand for assorted couples, the smaller number being the female and its double the male." Mere chance, the looks of the thing, its quality or virtue, its situation, and many other properties and contingencies, are said to account for these associations. The paper concludes with a few considerations touching the influence of the passion of Mrs. X on her religious life.

LENA M. ALDRICH.

Les esprits synthétiques. F. PAULHAN. Rev. Ph., XXV, 6, pp. 561–595.

This essay—a companion article to a paper on analytical minds in an earlier number of the review—proceeds to consider psychologically the characteristics which mark the predominantly synthetic mind in art, literature, industry, science and philosophy. Such minds are always distinguished, it is held, by a certain forcefulness, and generally by breadth and ardor, but their reluctance or inability to examine with care the ground of their conclusions limits, or even destroys, the value of the conclusions themselves. The tendency is to make the synthesis too hastily. Synthetic minds are of all ranks, rising from the semi-idiot to the genius, but this bent for subordinating fact to theory is visible throughout. The most notable minds among them are those in which the powers of synthesis and analysis are nearly balanced. Herbert Spencer, in particular, is cited as an example of such a balanced synthetic mind. Indeed the last section of the essay is devoted to a study of those minds which—whatever their natural gifts—are "in equilibrium."

GEORGIA BENEDICT.

Fanatisme et charlatanisme: étude psychologique. L. DUGAS. Rev. Ph., XXV, 6, pp. 596–613.

In this study of those abnormal states of mind which find expression in fanaticism or, what M. Dugas considers much the same thing, in charla-

tanism, they are held to spring in the first place from the predominance within the mind of some single thought in consequence of which it refuses to admit any opposing idea. The fanatic is the victim of a strong imagination. He is a visionary who strives to realize his dream against all opposition. If the opposition is so strong that our visionary gives up any hope of realizing his ideal, save in himself, perhaps, he degenerates into the charlatan. "The charlatan is the powerless fanatic," declares our author. This peculiar state of mind has many developments. As one man when he cannot act often takes refuge in high-sounding words, so another, whom circumstances keep from words even, delights in unfettered thoughts. In these men we often discover a curious scepticism, a disregard of results, an irresponsibility which amounts to mania, and which would seem, indeed, to be the normal result of this abnormal condition. Hence, concludes M. Dugas, "no wrong is done to thought by preventing its departure from the domain of action. It is only confined to its proper aim, held to its own nature, and to the office demanded by its own dignity."

GEORGIA BENEDICT.

Remarks on the Predicates of Moral Judgments. EDWARD WESTERMARCK. Mind, No. 34, pp. 184–204.

The various predicates of moral judgments are ultimately based on either the emotions of indignation or approval. These are very like resentment and gratitude, differing only in the fact that the moral emotions are disinterested and relatively impartial. In modern ethics the 'ought' is generally taken as ultimate and unanalyzable. But it appears to be decomposable into conation and imperative. What 'ought not to be' calls forth moral indignation. The ideas of 'ought' and 'duty' thus spring from one source, viz.: the emotion of moral indignation. Right, however, is not identical with what is obligatory, but includes also the super-obligatory. Thus it derives its import from the notion of oughtness, and carries with it a duty. But rights and duties are not identical, for it is not always a man's duty to exercise a right. With the notion of right is connected that of justice, and justice is the discharge of a duty corresponding to a right. The essence of justice lies in impartiality within a recognized order of rights. Justice, then, which is a kind of rightness, obviously has its origin in moral indignation. There are also predicates involving moral approval, chief among which is 'goodness.' This is not identical with right, but represents a different point of view. Virtue denotes a disposition of mind which is characterized by some special kind of goodness. Virtue is goodness tried and tested, and is to be distinguished from duty and from merit. Merit expresses a tendency to give rise to the emotion of moral approval. Merit also refers to something more than duty, or to that which is somewhat unusual. In the morally indifferent, and in the super-obligatory, we find the ultra obligatory. 'Indifference' is often taken to refer to the means used to reach an end which is not itself indifferent. This cannot be

correct, for thereby it would form a link in the obligatory. The attempt to make every action a moral concern is but a hollow and flattering tribute to the idol of duty.

A. W. CRAWFORD.

The Source of Moral Obligation. J. S. MACKENZIE. Int. J. E., Vol. X, 4, pp. 464–478.

The author here treats his subject in a popular style, and from a practical point of view. Except in ages of faith there is in most men's lives a region of doubt and indecision. The good man of two generations ago was an individualist (one who thinks mainly of personal obligations). The point of view has now shifted, and social obligation and not personal virtues and duties occupy the thoughts of the good man of the present day. The imperial problem has compelled us to face the new question of our obligations to the progress of civilization throughout the world. International ethics is still in the individualistic stage; the 'honor' of a nation is but the honor of a gentleman in the old duelling days. Thus practical problems of the day force upon us the question of the source of moral obligation. I. The authority of the state has been regarded as this source, both by primitive peoples and to some extent even at the present time. This does not touch many aspects of the life of the modern man, nor is it adequate when we think of the obligations of the state towards subject races or towards other sovereign powers. II. Among early peoples the will of the divine power or powers was the source of moral obligation. To-day this is unsatisfactory, for modern thought tends to proceed from the idea of morality to the idea of God, rather than from the idea of God to the idea of morality. III. Conscience, which was long regarded as the voice of God, is connected closely with the preceding as a source. Conscience however needs education, and thus we are led to: IV. Reason. Farther than this we cannot go. As reasonable beings we cannot but be convinced that whatever actions are reasonable are right. This source of moral obligation is a somewhat dry one, and, in spite of Kant's efforts to prove the contrary, cannot of itself furnish us with any real content for the moral life. All that reason can do is to point us to some end at which it is reasonable to aim. The thought of that end becomes the ultimate source of moral obligation. We can only get to understand that end by studying human nature in the concrete in relation to the conditions under which it has to develop. The great lesson of modern thought is that our whole life is a development, that it is only through its growth that we can learn by degrees what its meaning is; and that its claim upon our devotion lies simply in its being the only way in which we can realize what we truly are. Only by living can we grow in understanding of the duties of life.

HARRY L. TAYLOR.

The New Psychology and the Moral Training of Children. HENRY DAVIES. Int. J. E., X, 4, pp. 493–503.

It is only since the rise of the evolutionary method of thought that we can be said to have come to know the child. Psychology has especially given its attention to this study, particularly in its relation to child-training. After the labors of Perez, Preyer, and Sully, the child-mind no longer is a *terra incognita*. With our knowledge of the forces of environment, and heredity, and self-activity, we are no longer content with the haphazard in child-training. The methods of home, kindergarten, and primary school have been revolutionized as the results of this study, which are briefly :— (*a*) Child study. To strengthen the self-activity of the child and make it superior to the forces of heredity and environment, each child must be studied as an individual. (*b*) Arouse the self-activity of the pupil. Self-activity is the principle which organizes mental evolution through imitation. (*c*) Teach by interest rather than by rule of authority. (*d*) Rely on the routine of school work for *moral* training. (*e*) Indirection or influence is the chief power in the religious training of the young. Every teacher should know what the new psychology says about attention, interest, fatigue, and habit. The new psychology has shown us that in the line of emphasis in child-training feeling comes first, volition next, and intellect last. Excessive zeal for the new compels the writer to sound a note of warning. The new psychology fails to recognize the complexity of the child-mind. This has led to confusion in pedagogy. Over-estimation and exaggeration are also possible, as Dr. Harris seems to show in his *Psychological Foundations of Education*. Secondly, justice is not done to the ethical nature of children. The moral and religious nature of children is wholly disregarded in all recent works. Our analysis of childhood does not go deep enough. To regard a child as merely intelligent, limits our insight and cripples the higher effect of our teaching. Finally, the new psychology is in danger of perverting the ethical aspect of child-training. At present the emphasis is almost wholly on mechanism, the theory being that moral habits are to be formed by conforming the mind of the child to a definitely chosen and wisely administered system of studies. Morals are not taught, and religion is as though it were unworthy of notice. Teaching is an ethical process to the core, and the greatest teachers have been those of the profoundest moral and religious feeling. If we wish a nation to be moral, as well as intelligent, we must see to it that school education provides for moral instruction. The new psychology and the new pedagogy cannot fail to recognize this fact, and *the* problem of the twentieth century will be the moral training of the young.

HARRY L. TAYLOR.

NOTICES OF NEW BOOKS.

Die Syllogistik des Aristoteles. Von DR. HEINRICH MAIER. Zweiter Teil: Die logische Theorie des Syllogismus und die Entstehung der Aristotelischen Logik. Erste Hälfte: Formenlehre und Technik des Syllogismus. Tübingen, Verlag der H. Laupp'schen Buchhandlung, 1900.—pp. vii, 501.

This is the second part, now first published, of a work the first instalment of which was noticed in this REVIEW, VII, 4, pp. 409 ff. In recording one's impressions of a book that is in course of publication, one always incurs the risk of misapprehending the author's purpose, which in the nature of the case can be fully disclosed only when it has been completely executed. Thus in my previous notice I criticised the standpoint of Dr. Maier, and though I still believe that he might have profited by the suggestions then made, it seems only just to state at this time that, with the progress of the work, it grows increasingly clear that it was not from ignorance of other bases of logic, but from deliberate choice, that the author confined himself to the distinctively Aristotelian point of view. It is barely possible that Dr. Maier intended from the first just what we desiderated; for he announces that the final instalment is immediately forthcoming, and that it is to deal with the genesis of Aristotle's theory of the syllogism and of his logic as a whole.

The natural expectancy aroused by this announcement is enhanced by several considerations. In the first place the subjects with which it is to deal are doubtless to modern students of logic those possessed of the deepest interest. To this fact should be added the other, hardly less significant, that Dr. Maier entertains the strongest conviction that Aristotle discovered with an unerring instinct the standpoint from which logic will ever have to consider the forms of thought and cognition. Again, as the work comes in instalments from the press we perceive more clearly that it is not primarily a book *about* Aristotle's logic, but rather that it *is* the Organon. Everything is here presented in its appropriate place, with the cross-references supplied, and with footnotes which serve to put each subject into its proper relations with the system as a whole. In effect, therefore, we here possess a most exhaustive commentary on the entire Organon; and it is with especial gratitude we learn that in the forthcoming volume there is to be presented a full index of all the passages treated at length in the first two parts. With the assistance it will afford, the student of Aristotle, when in doubt concerning any matter of real difficulty in this field, will be enabled to consult the interpretation of it given by Dr. Maier.

In the part now under consideration the following topics are treated: the premise, the term, the syllogism; conversion of propositions; the

three Aristotelian figures; assertory, apodictic, and problematical syllogisms; hypothetical syllogisms, including the apagoge; analysis of notions in relation to the search for the premises; methods in the employment of the syllogism; fallacies; reduction of the specifically dialectical and rhetorical modes of argument to the figures of the syllogism. It is apparent at a glance that we here have presented the entire range of subjects usually found in the traditional manuals.

Amid so great a mass of details it is well nigh impossible to select special topics in preparing a notice necessarily as brief as this. There are, however, certain matters not undeserving of particular mention. Every scholar who has made an effort to acquaint himself in detail with Aristotle's logical treatises has had to deal with that great work, the *History of Logic*, by Prantl. Nobody can justly deny the service he rendered scholarship in its preparation; but there are two points at which he always failed. In the first place, Prantl was firmly convinced that, Aristotle being primarily a metaphysician, his logic must be merely a dependency of his metaphysics. Hence every observation, no matter how superficially empirical in its origin, receives at his hands an interpretation by which it is made to appear exceedingly profound. Thus, for example, the premises of the syllogism on this view are metaphysical in their reference. Dr. Maier has in this particular instance, as in several others, shown that this position is quite untenable (p. 131). Again, Prantl was persuaded that all the modifications of the Aristotelian logic introduced by Theophrastus or any other of the ancients were indefensible corruptions. Dr. Maier has repeatedly shown that on this point, as on the other, Prantl was often in error. Thus he calls attention (pp. 20 and 21, n. 1) to a very interesting instance in connection with the convertibility of propositions, where the proof was greatly improved and simplified by Theophrastus and Eudemus. Here, however, Prantl not only severely criticised them, but professed to find in Aristotle a very deep insight entirely obscured by his successors. Similar cases might be cited by the score (compare p. 108, n. 1; pp. 131, ff., and pp. 206, ff.; also p. 31, n. 1, and p. 35, n. 1). So evident is Dr. Maier's freedom from prejudice that one wishes he might next undertake to give a thorough restatement of Greek logic after Aristotle, with especial reference to the Stoics.

One of the most vexed questions of the Aristotelian logic has been that regarding the principle underlying the distinction between the three figures of the syllogism. Our author here (pp. 47, ff.) states the problem in the clearest possible terms; and after a full discussion, in which he accepts and develops the position of Trendelenburg, formulates his conclusion in the following words (p. 51): "Aristotle has, therefore, indicated with perfect distinctness the principles on which the several figures rest. The distinguishing characteristic of the first figure lies in the fact that in it the middle term occupies a position in point of extension midway between the major and the minor terms. In the second figure the middle term has an

extension greater than that of the other two terms; and finally, in the third figure, the middle term itself has the least extension of all the terms. But this tabulation will serve at the same time to disclose the principles underlying the classification which led to the division of syllogisms into the three figures: *it is the relation as regards extension in which the middle term stands to the other terms.*"

This explanation, which may now be fairly said to be established, receives striking confirmation from the apt interpretation given by Dr. Maier of the meaning of the so-called θέσις of the terms in the three figures. He shows (pp. 53, ff.) that it refers to the order of the letters of the alphabet which are conventionally used by Aristotle in three groups, A — B — Γ, for the first figure; M — N — Ξ, for the second; Π — P — Σ, for the third. Thus, then, in accordance with this scheme for the first figure, the middle term, B, will also regularly occupy the middle place in the order of occurrence as the terms appear in the series presented by the schematized syllogism.

With this notice we may now content ourselves. The typography of the book is rather unusually good. A very few errors of consequence appear, two of which may be noted. On p. 37, line 6, '*nicht*' seems to have fallen out before "*völlig*," and, on p. 114, note 2, announced in the text, does not appear at the foot of the page. In conclusion we may say, what really need not be said after the favorable words already spoken, that Dr. Maier has undoubtedly given us the best book on the subject of Aristotle's logic.

W. A. HEIDEL.

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The Sphere of Science. By FRANK SARGENT HOFFMAN, Ph. D., Professor of Philosophy in Union College. New York and London, G. P. Putnam's Sons, 1898.—pp. viii, 268.

In his preface Professor Hoffman states that the object of his book is "to point out with clearness what it is that constitutes a science, and to set forth with some detail what are the grounds upon which every science rests, and what are the principles and rules that must be followed in order to construct one. It is maintained from the first chapter to the last that every department of knowledge is capable of scientific treatment, and must be so treated before any great advance can be made towards a consistent and rational conception of the universe." He also states that the book is "the outcome of a series of lectures given to my classes in Union College to supplement their work in Formal Logic." The general character of the book would lead us to estimate it as such a supplement.

What constitutes a science is outlined in the first chapter. A science involves (1) a knowledge of facts, (2) that these facts be capable of verification, (3) that the knowledge of them be classified, and (4) that they be put together in a system. These constituents yield the following definition:

"Science, therefore, may be properly defined as logically arranged and systematized knowledge, or more fully, that kind of knowledge which consists of facts carefully ascertained, accurately verified, and logically put together into a system" (p. 7). From this definition the conclusion is drawn that it is illogical to limit science to any particular class of facts, to the exclusion of other classes which conform to the definition. Science is then distinguished from art by the old dictum—"A science teaches us to know, an art to do"; from literature, which is the ornament of science and the means of its communication; and from philosophy, which is the "Science of the sciences," that which unifies the sciences into one system. Science is not divorced from faith, since "gravitation, motion, force, atom, ether, and the like are the veritable products of faith, and in no sense matters of absolute knowledge" (p. 12). Completeness or freedom from error is not essential to science, for science is progressive. But this does not destroy its value, for by progressing it is constantly enlarging the nucleus of certainty contained in previous scientific progress.

This conception of science is the traditional one developed in works on Formal Logic, and shares in the inadequacies of such a conception. While the worker in science may undoubtedly conform to the conditions noted by Professor Hoffman, he does more. His conception is wider and more fundamental than that here outlined. He may exhibit the results of his work as a system of verifiable facts logically arranged and classified, but such an exhibition can hardly be regarded as his purpose. It serves rather simply as a logical or rhetorical device for a clear presentation of his discoveries. His purpose is other than rhetorical, it is to ascertain the fundamental structure of the elements with which he deals, and the invariable ways in which these elements act and interplay. It is by no means clear that this purpose will be secured simply by logically arranging and classifying verifiable facts into a system, unless we give to the terms 'logically' and 'system' a far wider meaning than is given to them in works on formal logic. The traditional doctrine of 'division' presents verifiable facts logically arranged and classified into a system, but it does not present a science, because it does not present a fundamental structure of elements and the invariable modes of their action and interplay.

Nor does Professor Hoffman's chapter on "The Scientific Method" remedy the defects in his conception of science, even if it does insist on the inductive methods as essential to the discovery of causal connections. For the chapter presents these methods simply as among the traditional standards of perfection by which any hypothesis is to be estimated, but does not make clear the essential character of a scientific hypothesis; namely, that it is the assumption of elementary structures and activities which are exemplified in very complex processes, and in the light of which these processes may consequently be simplified and explained. In short, the fundamental inadequacy of the conception of science here outlined seems to lie in the apparent identification of the machinery used in the

discovery and exposition of scientific results, with the character of those results. Science is indeed a system of verifiable facts logically arranged and classified, and discovered by certain methods, but it is also something more; namely the discovery how complex processes are but the exemplification of the natural interaction of elementary structures not further reducible, and it is this something more that distinguishes it as science.

Exception ought also to be taken to Professor Hoffman's conception of philosophy as the unification of the sciences, for philosophy does something else than unify science. While like science it deals with reality, and thus may be said to have the same subject matter as science, its purpose is different. It does not, like science, seek to resolve complex processes or their sum into previously known or supposed simple elements and their activities, it seeks rather to formulate a conception of reality itself. It asks not *how* is the universe in all its complexity to be explained, but *what* in all its complexity is it. Thus while it is true, as Professor Hoffman asserts, that "every department of knowledge is capable of scientific treatment," such treatment does not exhaust reality. Reality itself is more than any scientific explanation can reveal, and it is this 'more' which philosophy tries to make evident and appreciable. Every great system of philosophy is evidence of this, and this is the mark of the idealistic philosophies in particular; for their great merit is just the insistence that the completest scientific explanation can never be made a substitute for reality, or for a philosophy of reality.

Professor Hoffman gives the following as the presuppositions of science in the chapter entitled "What Science Takes for Granted": (1) the scientist's knowledge of his own existence, so that he can separate himself from his sensations and contemplate them in order to form general notions; (2) a similar knowledge of self he must allow to all his fellows in order to insure communication; (3) the existence and validity of the laws of thought; (4) the rational construction of the universe, which involves (*a*) that all objects of science are related as substance and attribute, (*b*) that every beginning or change of existence in the universe has a cause, (*c*) that the universe exists in space and time, (*d*) that the universe is regulated and controlled by design, (*e*) that the universe is constructed so as to be consistent with itself; (5) that the human mind is, in some respects at least, a reflex of the divine; and finally, (6) that the realm of science is coincident with the realm of reflective thought. This seems much like saying that science takes for granted the whole of the Cartesian philosophy. While scientific investigations may involve some of these presuppositions when epistemologically considered, it can hardly be claimed that the success of science depends on even their tacit presupposition, and least of all that the authority of science rests on such a set of ulterior truths (p. 39).

The certainty possible for science is expressed as follows: "The conclusion of the whole matter is this, that it is never necessary, in fact that it is never possible, to do more for any doctrine, in any department of inquiry,

than to show that the balance of probabilities is in its favor. When we have shown that, we have made the doctrine worthy of credence, we are entirely justified in accepting it as truth and adopting it as a rule of conduct" (p. 80).

The remaining chapters of the book are detailed illustrations of the positions already sketched. As a whole the book is not timely. It proceeds with apparent disregard of modern epistemology, and contains no thorough analysis of the foundations of science.

F. J. E. WOODBRIDGE.

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La cause première d'après les données expérimentales. Par ÉMILE FERRIÈRE. Paris, Félix Alcan, 1899.—pp. 462.

This volume is the last of a series of three designed "to demonstrate the unity of substance by means of positive facts to the exclusion of all *a priori* argument." The first volume of the series was entitled *La matière et l'energie*, the second *La vie et l'ame*. The first book of this volume gives a *résumé* of the contents of the two earlier works, the outcome of which is that the soul is the function of the brain. It is not a simple unity but a resultant. Just as white light, so apparently simple, is shown by the prism to be the resultant of seven colors, so the unity of the soul is shown by facts both normal and pathological to be a resultant. The soul of man is of the same nature as that of the animal. The difference is only one of degree. Matter and energy alone, however, do not account for the phenomena of life. The theory of evolution suffices to reduce derived forms to anterior types. Science is silent as to these original types. "It follows that the existence of form implies the existence of a first cause." And again, since science shows that all life comes from the germ, "it follows that the origin of life on the terrestrial globe implies the existence of a first cause" (p. 86). Biology has disproved spontaneous generation. Chemistry has disproved the existence of vital forces, and cerebral physiology the existence of individual souls as physical substances. The terms of the metaphysical problem therefore are reduced to a first cause and matter-energy. The problem is how are these two related.

Book second on "Final Causes" maintains that there is a plan and directing idea at the origin of primordial types, but no finality is manifested in the relations of the several groups of beings to one another. "The egg of the hen is not made to serve as food for man, but to produce a hen." Each being has its finality in itself, not outside of itself. There is "internal finality" but no "external finality." Books third and fourth take up more than half the volume, and discuss the plan of the creation of the animal kingdom and vegetable kingdom respectively. The outcome of this discussion is that the theory of gradual perfection is proved false by the facts. Such facts as the late appearance of lower forms, the existence of parasites which must

have been created after the higher forms on which they prey, the presence of destructive diseases are used to establish this. We cannot, then, ascribe to the first cause moral attributes such as wisdom, goodness, and justice.

In the fifth book entitled "The Deductions" we reach the strictly metaphysical part of the work. Substance is defined as the permanent ground whence eminates the indefinite variety of transitory and changing phenomena (p. 418). Historical systems are classified according to their doctrine of substance as follows: dualism, two substances, matter and spirit (Plato, Descartes); materialism, one substance, matter, of which force is a property (spirit is identified with force); dynamism, one substance, force, of which matter is a property (Leibnitz); "experimental Spinozism," one substance, which manifests itself to the human spirit under the two aspects of matter and energy. This last is our author's system, and he goes on to argue that, since matter-energy is the twofold manifestation of the one substance, the attributes of matter-energy are the attributes of the first cause; *e. g.*, matter-energy not having been created, it is absolute, and hence the first cause is absolute (p. 429). In an equally simple (and convincing?) way it is shown that the first cause is also necessary, eternal, infinite and universal. These are the metaphysical attributes of the first cause. The moral attributes are again considered and found wanting. Intelligent power, wisdom, and love for creatures and for the beautiful are separately discussed. Intelligence and thought are quickly passed over as presenting an insoluble problem. The organic plan of types, and the reign of law in the universe, imply intelligence in the first cause, but then there is no intelligence except in the brain, and no brain without a skull—an insoluble dilemma. Prudence therefore compels us to limit the definition of the first cause to the metaphysical attributes. Finally, from these metaphysical attributes it follows that the first cause is immanent in the world. If it were distinct from the world it would not comprehend all and would not then be universal, etc., etc. The first cause is related to the world as the *true* to the *real*. This distinction is illustrated by the relation of the geometrical triangle, the true, to the material triangle, the real. The first cause is the one substance as immanent truth, matter-energy is the real world manifesting the one substance in the form of individual phenomena.

Such in outline is "Experimental Spinozism." Except as a straw to show which way the metaphysical winds are blowing the only value of the work to the philosophical student lies in the somewhat detailed discussion of the "plan of creation" on the basis of which the moral attributes are denied to the first cause. However firm may be one's conviction of the falsity of this conclusion, no philosophical treatment of the problem of evil can afford to neglect the class of facts here presented.

F. C. FRENCH.

The Psychology of Religion. An Empirical Study of the Growth of Religious Consciousness. By EDWIN DILLER STARBUCK, Assistant Pro-

fessor of Education at Leland Stanford Junior University. London, Walter Scott, 1899.—pp. xx, 423.

From the standpoint of the older dogmatics, the assumption that religious experiences conform to natural law is more revolutionary than either modern geology or the theory of evolution. Yet, unless all signs fail, the religious world will assimilate, without first combating, the psychology of religion that has been in process of birth during the present decade. Certainly this first volume on the subject contains very little that can irritate any theologian who has outgrown the eighteenth century notion of the mutual exclusiveness of the natural and the supernatural. Beyond an unguarded reference to the "irresistible" sequence of cause and effect, and to the "control" of law, at no point does the discussion deviate from fact to metaphysic, or indulge in either positive or negative dogmatism.

The scope of the investigation is limited to the religious consciousness of the individual, and specifically to its development. Of the sources of religion in the individual or in the race, or of what constitutes religious consciousness, or of the interrelations of religion with the other factors of life, of all this there is no word. The religion of childhood receives only a seven-page discussion, and this is merely a descriptive summary. The almost exclusive interest is in the adolescent period, and in its relations to childhood and maturity. More strictly still, it is the adolescent development of American Protestants, though many of the processes are given universal significance by being traced down to their biological and physiological roots. The book is, in fact, an expansion of the author's well-known articles in the *American Journal of Psychology* (VIII, 2, and IX, 1), which established the fact of a definite correlation between conversion and other adolescent religious phenomena on the one hand, and physiological adolescence on the other. The same view is here reinforced with many improvements and additions in matters of detail. The favorable age for conversion no longer appears to coincide with the age of puberty, but to follow, as though supplementing the physical change.

The most important new contribution is an organized view of the differences between the religion of childhood and that of maturity, and a careful analysis of the various ways in which adolescence mediates between the two. Between childhood and maturity a self-centered and chiefly receptive life changes to social consciousness, independent activity, the demand for personal insight. This process is well described as the birth of a new self. Adolescence marks the breaking up of the old self, and the gradual organization of the new. First, a new life of emotion and will bursts forth, and later comes the impulse to make rational readjustments. This transformation takes different forms, according to training, temperament, suggestibility, and physical state, but all the processes converge at the same point at the conclusion of adolescence. The author rightly expects a new religious pedagogy to grow out of this insight into the formative years.

With this mere hint of the contents, let us turn to the method. This is

the *questionnaire* plan at its highest potency. It is no mere tabulating of answers, but a penetrating analysis of them. Dr. Starbuck displays remarkable ingenuity for devising significant cross sections of statistical returns. Even the firmest opponent of the method cannot deny that at least certain massive tendencies emerge with convincing clearness.

At the same time, nothing so clearly shows the limitations of the method as to work it thoroughly. A natural tendency to employ the uncritical language of the respondents as a basis for a classification leads to artificiality and over-refinement. I refer not merely to the obvious slip in counting æsthetic and ethical impulses at one time as factors in religion (pp. 322, 404), and at another as substitutes for it (p. 273), but rather to the undue multiplication of classes illustrated in tables ix, xv and xx (pp. 63, 123, 220), in which, for example, "sense of sin," "feeling of estrangement from God," "desire for better life," and "feeling of incompleteness and imperfection" are set apart as though they were known to be different. There are traces, also, of a tendency to accept at face value statements of experience couched in dogmatic terms; here belong the sense of sin and the testimony of sanctified persons that nothing remains within to respond to temptation.

The returns are accepted at face value with respect also to motives and influences. Yet it is precisely in the dynamics of mental processes that untrained introspection becomes most conspicuously incompetent. Anyone who has observed attempts at self-analysis by a person who is executing a post-hypnotic suggestion, must have been struck with the elusiveness of our motives and the ease of self-deception. While, therefore, the question-list method can determine the general trend of large masses of men, we shall not find out what religion is, or see the mechanism of its varieties, until to this extensive study we add also an intensive study based largely upon objective observation and experiment. The author does me the honor to quote from a research of mine concerning the part played in conversions by temperament and suggestion (PSY. REV., VI, 5), but it should be noted that on this topic the decisive evidence was not derived from question-circular returns.

The general soundness of Dr. Starbuck's work is in no way affected by these strictures upon the question circular method. Statistical inquiry is the only way of settling the main questions which he attempts, and it must be said that the religious as well as the psychological world is under obligation for this untiring, ingenious, and successful attempt to determine a part of the topography of the religious consciousness. What is now needed is further research of the same kind into the experiences of others than American Protestants, and intensive study into the origin, the content, and the dynamics of the religious consciousness.

GEORGE A. COE.

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Kurze Erklärung der Ethik von Spinoza und Darstellung der definitiven Philosophie. DR. RICHARD WAHLE, K. K. O. Ö. Professor der Philosophie an der Universität Czernowitz. Wien ünd Leipzig, Wilhelm Braumüller, 1899.—pp. viii, 212.

It is sometimes said that this age is marked by a lack of conviction, and probably there has never been so strong a tendency to put all expression of thought into a tentative form. No matter how ardently a man may defend his own views, he rarely refuses to admit the possibility that he is mistaken. In this respect Dr. Wahle is an exception to the majority of his contemporaries, in that he believes himself to be the author of a system of philosophy which can never be refuted. Future ages may add to it, but any departure from its fundamental principles will lead to inevitable falsehood.

The first portion of Dr. Wahle's book is devoted, as the title shows, to a discussion of Spinoza's *Ethics*. The treatment is clear and systematic, but is vitiated by the constant assumption that at any cost Spinoza's writings must be made self-consistent. Moreover, the whole subject is treated from the standpoint of the author's own system. The sum and substance of the criticism is that Spinoza was a precursor of Wahle, who has now corrected the mistakes of his predecessor.

The second part of the book contains a statement of the absolute truth, which is called the definitive philosophy. There is no distinction between thing and idea; the two are one, viz., an event, which is the product or modification of unknown factors. To say the subjects A and B observe the objects m, n, o, involves one in unjustifiable theories. The truth is that in the factors concerned there is no single factor remaining identical with itself that necessarily corresponds to A and B. One may as well suppose a special arrangement of different factors. When these enter into relationship with one another, they produce or give as a modification the events A plus m, n, o and B plus m, n, o. M, n, o are not given through the senses of A and B, but the so-called subject and the so-called object are given as a free effect. There is no identity nor unity of the ego, but merely a likeness between phenomena. It is impossible to deny the existence of other men; but such an assumption, far from recognizing different mental subjects, is restricted in meaning to different groups or spheres of consciousness. There is no such thing as a knowing subject. Certain effects, ideas, are true; *i. e.*, they are what they are, they exist. The difference between knowing and not knowing is that between existing in the same sphere with the object to be known, and in a separate sphere. Knowledge is existence.

With regard to the unknown causes of ideas, a few fundamental attributes may be predicted. They differ among themselves; and, since they may change, they are in time, though not in space. The concept of causality may be applied to them, but only in a negative sense. X could not happen without y, yet there should be no talk of the dependence of y upon x. We must suppose that in some way there is a quantitative cor-

respondence between the effects, or ideas, and their causes, but we have no measure, and so no knowledge of it. It is possible that like effects arise from the combination of different causes, although causes absolutely alike never produce different effects. These laws may all be deduced from that of identity.

Again, it is impossible to think of a force as existing apart from a substance. We have the ideas, the effects; they cannot come about of themselves, they must be caused by something, which cannot always remain the same, or nothing would result from it. Mere change cannot exist alone, there must be something that changes; and thus behind both effect and cause we must assume substance. Since it embraces differences, substance must be complex. Nothing comes from nothing, and so there must be something uncreated, but, on the other hand, substances may perhaps be annihilated by collision with one another.

Such is in outline the definitive philosophy. For a system that professes only to embrace ultimates which cannot be disputed, the selection of some of the doctrines, *e. g.*, that which ascribes time but not space to what is virtually the *Ding an sich*, seems to be arbitrary, to say the least.

GRACE NEAL DOLSON.

An der Wende des Jahrhunderts. Versuch einer Kulturphilosophie. Von DR. LUDWIG STEIN, o. ö. Professor der Philosophie an der Universität Bern. Leipzig u. Tübingen, J. C. B. Mohr, 1899.—pp. viii, 415.

"Die Wende des Jahrhunderts" furnishes the occasion to the editor of the *Archiv für Philosophie* to republish a series of essays on different sides of human culture. A glance at the table of contents shows the variety of topics considered. Four of the essays treat of the continuity of Greek thought in the early middle ages; two discuss the modern Nietzsche cult; two deal with sociology, and three more with ethics; while single essays are devoted to the art of biography, experimental pedagogy, and the philosophy of peace. While only four of the essays are new, others were published in magazines not everywhere accessible, and will be new to American readers. Grouped in a book these papers suffer from a lack of continuity and from a certain repititiousness, while at the same time they retain the sparkle of the essay form. Some American philosophic writers attempt to justify the practice of quoting considerably from their own works, a practice that is constantly followed in the book before us; but to quote a passage half a page in length which was printed thirteen pages back (pp. 108 and 95) certainly demands the excuse that the essays are essentially separate. To object to the number of foreign words, French and English, Hebrew, Greek, and Arabic, that appear in the text, is but to say again that the reader will find not a treatise but a series of essays.

The unity of the book lies only in the fact that all the different essays are written from the same general standpoint. The standpoint is primarily *Evolutionismus*, in that it finds the explanation not only of biological

but also of psychological and ethical facts in the struggle for existence. It is called critical in its rejection of a metaphysics of being, and sociological in that the well-being of man in society is regarded as the primary end of all philosophic activity. Marx, if I read rightly, as the exponent of the central importance of the study of society, is placed first, Darwin second, and Kant third, in the list of leaders recognized by Stein. The author stands for an uncompromising intellectualism (Essays XIII, XVII) which aims at a new *Aufklärung* more thorough-going than that of the last century. He stands for an optimism which sees in evolution only progress, and never degeneration. He finds the task of twentieth century philosophy in the study of society, in order to discover not absolute laws, but the rhythms according to which social movements take place. The 'inner teleology' of social developments studied by the 'comparative-historical' method will lead to the understanding of the categories of social life.

Such is the *Gedanken-anarchie*, which our author laments, that perhaps few will agree with his account of the signs of the times. To read such a book through, may prove wearisome; as essays, however, these papers treat the different topics in a bright and stimulating way which will prove interesting to many who are wont to regard these problems in a more conventional manner.

ARTHUR FAIRBANKS.

De la psychologie des religions. Par RAOUL DE LA GRASSERIE, Lauréat de l'Institut, Docteur en droit, Juge au tribunal de Rennes. Paris, Félix Alcan, 1899.—pp. iv, 308.

The work of individual psychology and race psychology is to be supplemented by an *objective* psychology, a psychology the laws of which are to be discovered in the phenomena of religion, of language, and of law—such is the aim of the prejected series of works the first of which is before us. Religion is to be studied, not from the standpoint of its truth or error, nor yet as the product of human society, but simply as revealing the laws by which the human mind works. Interesting as this program sounds, the reader is put on his guard in the introduction itself by the statement that the source of religion is to be found in psychology, while its development is to be studied from the standpoint of sociology.

The three parts of the work are of quite unequal value. The first part is entitled "De la genèse et de la évolution psychologiques des religions"; but what the reader finds is simply a brief phenomenology of religion. In so far as this is based on the works of such writers as Monsieur A. Reville, it is trustworthy, but unnecessary for the author's purpose. Of the genesis of religion, and of the psychological laws appearing either in its genesis or its evolution, we find scarcely a word. Religious phenomena are grouped in a very elaborate classification, especially in the chapter on morals, but the author shows little understanding of their historic meaning.

The title of the second part—"De l'application des lois psychologiques

aux faits religieux"—wakens no less interest than that of the first part; but again the reader is doomed to disappointment, although this time for a different reason. Some of the so-called laws are so general as to be almost meaningless, for instance, the law that the human spirit always is striving to rise a little above its present level; others are so special as to be nothing more than the statement of a particular phenomenon, for example the "law of mythism." Moreover, these laws are so heterogeneous that they can hardly stand in the same series. Certainly the law of the unity of the human spirit, the phrase by which the author attempts to explain the appearance of similar phenomena in different localities, does not stand on the same plane as the "law of mythism"; and the fact that evolution assumes a "spiroidal" form is not coördinate with the tendency of religious rites and beliefs to become empty form. The phrase "mentalité humaine" occurs rather frequently in these chapters, but if we recur to the author's distinction between the psychological and the sociological study of religion, it becomes very evident that most of his 'laws' really belong to the domain of sociology; in fact several of them have already been propounded by sociological thinkers.

The few pages at the end on the psychological motives of religion contain some useful observations which are strictly in line with the aim proposed by the author, but as a whole the book accomplishes extraordinarily little of the program announced in the beginning.

ARTHUR FAIRBANKS.

Essai sur l'obligation morale. Par GEORGES FULLIQUET. Paris, Félix Alcan, 1898.—pp. 454.

The author regards duty or obligation as the fundamental and all-inclusive principle of mortality, and his effort is to exhibit it in its true significance, and in its central ethical importance. The book is divided into three parts, the first psychological, the second critical, the third historical. In the first, M. Fulliquet seeks to establish a basis for obligation in freedom, finding in the power of attention "a sort of vital potential" at the disposal of the agent, which breaks the determinism of the mechanical conditions. The freedom thus reached is a freedom narrowly limited; "it reduces itself to the necessity of choosing between two or more directions rigorously determined." "Man is not free to prepare the elements of his choice, to form for himself the resolutions which are possible for him; he receives them all made, he is only called to choose. A moment before the choice, no freedom; at the moment of choice alone does freedom appear. Nor is man any longer free after his choice to execute his decision: It is entirely determined. Finally, man is not free to avoid choice; not only can he choose, but it is more exact to say that he must choose" (pp. 73–74).

With freedom obligation is inseparably connected. With the consciousness of alternative comes the consciousness of the obligatoriness of one

alternative, that which is conceived as good. The good is the obligatory. Instead of deriving duty from good like the ancient moralists, we may, with Kant, explain good in terms of duty. "For ourselves we cannot hesitate between the two views which have been indicated. To seek first to account for obligation by the special characteristics of the good, to say that obligation attaches to what is good, to what is recognized as good independently of its obligatoriness upon the will, is to make the good a motive, doubtless very superior to all others, but a motive which does not act differently from the others. Our analysis of the experience of obligation forbids this. We are therefore led to adopt the view of Kant, and to define the good thus: that which is obligatory" (p. 130). "The good in itself is the obligatory. The agreeable, the useful, the true, and the beautiful are resonances of the good, not its essence; its consequences not its substance" (p. 131). It follows that the only true method of discovering the content of the good is the method of obedience to duty.

Theories of moral obligation are divisible into two classes: (1) those which attempt to reduce obligation to some better known element in human nature, (2) those which attempt to relate obligation to a foreign influence exerted upon man. The former refer obligation to the ego, the latter to the non-ego. The author's view lies between the two. He finds the source of obligation not in the conscious, but in the unconscious ego. For the explanation of this unconscious ego—of its constant and unchangeable direction of the conscious self, of its absoluteness and its sacredness, he has recourse to the action of God. "The intervention of God alone, and in the form of his direction of the unconscious ego, can confer upon obligation its authority and its majesty" (p. 282). Such a view, he holds, conserves the best results of previous efforts made in both directions, that of the ego and that of the non-ego.

The theories considered in the third, or historical, part of the work, are those of Kant, Schopenhauer, Renouvier, Spencer, Secrétan, Fouillée and Guyau. J. S.

Über das Sollen und das Gute; eine Begriffsanalytische Untersuchung. Von FRED BON. Leipzig, Engelmann, 1898.—pp. vi, 188.

As the sub-title indicates, this essay is an analysis of the concepts 'ought' and 'good.' Such an analysis the author regards as the precondition of a true ethical theory. Philosophy is the critic of popular concepts, and the cause of its failure, in ethics as elsewhere, is that it has not risen to the dignity of its office, but has been led by its desire to find acceptance with the popular mind to adopt for its own the uncriticised concepts of common sense, and, with these concepts, the confusion and self-contradiction which they carry with them. 'Ought' and 'good' are here investigated as the fundamental concepts of ethics, which Dr. Bon defines as *die Wissenschaft vom Sittlich-Guten.* He finds it necessary, however, to consider the other meanings of both 'ought' and 'good,' and thus to dig about the roots of other sciences as well.

The essay is divided into five chapters, the first four dealing with the several senses of *Sollen*, the fifth with *das Gute*. The first chapter is entitled "*Über die Frage: Was soll ich thun?*" (*Philosophie der Normik*). I ought to do what I am commanded to do, the command being accompanied by punishment for disobedience. The interest regarded by the act of duty is always, however, that of the law-giver, and the act itself is, therefore, always altruistic. The second chapter deals with the question, "*Was soll ich thun, um—?*" (*Philosophie der Technik*). Here we have to do with the hypothetical as contrasted with the categorical imperative, with counsels as contrasted with commands. Commands take no account of individual ends; counsels imply and are dependent for their validity upon such ends. It is the function of *die Technik* to discover the means to given ends. Even that end which may be said to be universally given, *i. e.*, happiness, yields only a hypothetical imperative. The question "*Was soll ich thun, um glücklich zu werden*," discussed in the third chapter, is the question of *Eudämonologie*, a special branch of *Technik*. The next chapter is devoted to the question, "*Was soll sein?*" (*Philosophie der Ideologie*)—the question of the relation of our wishes, and more particularly of our ideals, to reality. The author here insists upon the antithesis of logic and life, upon the biological value of error, upon the a-logical character of the ideal. "It is questionable whether an ideal which has nothing utopian in it deserves the name of an ideal at all." He also condemns what he calls *Entwickelungsideologie*, finding in it only a new version of the errors of *Naturrechtslehre*.

Having distinguished and discussed these four forms of *Sollen*, the categorical, the technical, the eudämonological, and the ideological, the author, in proceeding to the consideration of the good (*Philosophie der Ethik*), reduces the ideological to the eudämonological, the good of the former, namely, the desired, being identical with that of the latter, namely, the pleasure-giving. Is the ethical good, then, synonymous with the categorical ought? The author, instead of offering an answer of his own to this, the fundamental question of the entire discussion, contents himself with a classification of the various possible interpretations of ethical good. The classification corresponds to the four senses of 'ought' and to the possible systems of ethics. According as the ethical good is conceived as (1) that which is commanded, (2) the useful, (3) the ideal, (4) the expression of a certain type of character, the ethical system is (1) an ethic of duty, (2) an ethic of ends, (3) an ethic of the ideal, (4) an ethic of virtue. These various "types of ethical theory" are further subdivided with a painful and unnecessary minuteness. J. S.

Evolution. By FRANK B. JEVONS, Principal of Bishop Hatfield's Hall, Durham. London, Methuen & Co., 1900.—pp. 301.

This book is a discussion of the doctrine of evolution from the theological standpoint. Accepting evolution as a fact, the author seeks to ascertain

what it has to tell us about the ultimate nature of the universe. In this inquiry he makes a sharp distinction between science and philosophy. Science deals merely with the sequences of events, and has nothing to do with ultimate questions such as Freedom, Teleology, the existence of God. All these fall outside of its province, and its results stand unaltered whatever metaphysical position be adopted. Evolution, therefore, being a scientific hypothesis, does not settle any metaphysical problem.

The author's own answer to these ultimate questions does not seem to be quite consistent. In the first part of the book he deduces the existence of God from the existence of moral ideals. In the latter part of the work he establishes the truth of religion on the will-to-believe principle. Science, he tells us, depends upon the hypothesis of the uniformity of nature. This hypothesis cannot be proved, hence science rests ultimately upon faith. Similarly we must accept the axioms of reason without proof. Morality is in the same position as science and logic. We believe in the principles of morality, "not because we can prove them, but because we wish to believe, and because we have faith in the right." For the religious belief in God there is the same lack of evidence, but also the same justification.—The fallacy in this method of reasoning seems fairly obvious. The author shows that certain things cannot be demonstrated, and this every one would admit. He then proceeds to assert that we accept them on faith, that is, because we wish to accept them. This assertion is not logically necessary nor true in point of fact. We 'accept' the principles of reason, for instance, not because we wish to do so, but simply because as rational beings we must reason more or less, and when we reason we must proceed according to the laws of our reason. Such indemonstrable principles we 'accept' because we must. The presence of these principles therefore affords no justification for adopting any point of view merely because it harmonizes with our wishes.

As a whole, however, the book makes a very favorable impression on the reader. The critical discussions are excellent and probably constitute the chief value of the work. The author is inclined to repeat himself, but he states his case well, and the book abounds in telling phrases and apt illustrations.

DAVID IRONS.

La philosophie d' Auguste Comte. Par L. LÉVY-BRUHL, Professeur à l'école des sciences politiques. Paris, Félix Alcan, 1900.—pp. 417.

This book is a study of the strictly philosophical part of Comte's doctrine. Accordingly, it deals exclusively with the first stage of Comte's development, and leaves out of account the succeeding stage in which his philosophy was transformed into a religion. This does not mean that the author regards the two stages as inconsistent with one another. On the contrary, he contends that they were originally related. Comte's contribution to philosophy proper, however, is the most original and historically the

most important part of his work, and it is for this reason that M. Lévy-Bruhl devotes attention to it exclusively.

The author's main object has evidently been to give a detailed exposition of the positive philosophy, and in this he has succeeded admirably. The work is a clear, systematic, and sympathetic account of the Comtean point of view. It treats first of Comte's conception of the philosophic problem, the law of the three stages, the classification of the sciences, the positivistic view of science and of scientific method. After this introduction there follows a detailed account of Comte's treatment of the various sciences from mathematics up to sociology. The concluding chapter contains an estimate of Comte's significance in the history of the development of human thought.

According to M. Lévy-Bruhl, Comte's originality is to be found in the fact that he saw the necessity of reorganizing science and philosophy before proceeding to the reorganization of society, which was his ultimate aim. He perceived that the sociological problem could not be solved until more theoretical problems had been dealt with; for social institutions depend upon ethical customs, and these in turn imply theoretical beliefs. In dealing with this problem of 'intellectual reorganization' Comte found that the positive sciences, while affording real knowledge, did not satisfy the intellectual demand for universality or unity; the theologico-metaphysical systems of thought, on the other hand, possessed the characteristic of universality but not that of reality. Since neither characteristic can be sacrificed, the difficulty was to unite the 'reality' of the positive sciences with the 'universality' of philosophy. Comte came to the conclusion that this could be done only by the transformation of science into philosophy. For this transformation the creation of sociology as a positive science, *i. e.*, the discovery of the fact that human life and society are governed by unalterable laws, was of crucial importance. It not only rendered possible the universalizing of the positive method, it also brought about "the totalization of experience;" for sociology, as the last of the fundamental sciences, presupposes and sums up all the others. According to M. Lévy-Bruhl, this transformation of science into philosophy, this "Copernican revolution," constitutes Comte's chief claim to a place in the history of thought. His sociological hypotheses have suffered the fate of all scientific theories, but the speculative basis of his work is of permanent value and shows its influence even in those who oppose it.

DAVID IRONS.

System der Philosophie. Enthaltend: Erkenntnistheorie, Logik und Metaphysik, Psychologie, Moral und Religionsphilosophie. Von DR. JOSEF MUELLER. Mainz, Franz Kirchheim, 1898.—pp. viii, 372.

This book will be found of service to beginners in philosophy for whom an *imprimi permittitur* is essential. As the title indicates, it covers in brief outline nearly all the strictly philosophical disciplines. It does this

in an interesting way, and with a display of no little learning and acumen. Without assenting to the course of thought at all points, one may yet easily perceive that within the limits which the author prescribes to himself, he has made the discussion fresh and crisp, and has illustrated it and set it in relief by a considerable body of references to modern philosophical literature. The evident breadth of the author's philosophical reading makes it all the more regrettable that he has not chosen to put into the hands of his readers specific title and page references to the authors whom he discusses.

As to the point of view, standing ground is sought by an analysis of the ego and its contents somewhat in the spirit of Descartes. This analysis takes a psychological rather than a logical direction, and by means of it an effort is made to establish the truth of metaphysical realism. The author holds that the conscious differences between an idea and a sensation are sufficient to prove his position. But it must be said that the failure to heed the logical problems involved in our consciousness of the external world detracts materially from the value of the analysis.

GEORGE A. COE.

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Nietzsche's Stellung zu den Grundfragen der Ethik genetisch dargestellt. Von DR. GEORG A. TIENES. Berner Studien zu Philosophie und ihrer Geschichte, Band XVII, Herausgegeben von DR. LUDWIG STEIN, Professor an der Universität Bern. Bern, C. Sturzenegger, 1899.—pp. 50.

According to the author, the purpose of this book is to describe the history of Nietzsche's development, and to show his manner of working, the multitude of his methods, and his various ways of putting a question, in order to help to bring about a better understanding of Nietzsche himself, especially the Nietzsche of the last period. Three general questions are discussed: (1) the derivation of morality; (2) the fundamental principles of morality; (3) the will. The treatment is entirely chronological; so much so that in the discussion of the differen topics Nietzsche's books are taken up in order, and a summary is given of the contribution of each to the solution of the problem under consideration. Such a mode of treatment, with its lack of unity, makes the book difficult to read, and almost necessitates a previous knowledge of Nietzsche's philosophy; but the care with which the work has been done makes it valuable for reference.

GRACE NEAL DOLSON.

Alfred Fouillées psychischer Monismus. Von MME. DR. DOROTHÉE PASMANIK. Berner Studien zur Philosophie und ihrer Geschichte, Band XVI. Herausgegeben von DR. LUDWIG STEIN, Professor an der Universität Bern. Bern, C. Sturzenegger, 1899.—pp. 86.

This book contains a careful and well-arranged account of the philosophical system of one of the greatest of living French philosophers, and is

evidently intended to be expository rather than critical. The author regards Fouillée's system as a union of the tendencies represented by Platonic idealism and English evolutionism, but insists that such a synthesis is in no sense eclectic. It brings together types rather than individuals. Fouillée himself calls it the method of mediation. Since every system rests upon something positive, and different schools merely show different ways of looking at the world, all systems are limited, and in need of completion. One must not stop with the contractions that necessarily arise, but through dialectic multiplicity must become unity. Of course, the resulting reconciliation is itself a system, and so in its turn in need of completion.

GRACE NEAL DOLSON.

Les principes d'une sociologie objective. Par ADOLPHE COSTE, Ancien président de la Société de Statistique de Paris. Paris, Félix Alcan, 1899. —pp. iv, 243.

An *objective* sociology is not concerned with ideas or ideals; for these M. Coste provides a new science, *la science de l'idéologie*, and Comte's classification of the sciences is modified so that ideology stands above sociology, at the head of the list. This change the author attempts to justify by arguing that the great men who have modified the current of ideas are in great measure independent of social conditions. Sociology is concerned with the purely objective phenomena of population and social institutions. In general the position of M. Coste resembles, *e. g.*, that of Barth, in that sociology is made to cover almost the same ground as the philosophy of history. The outline of sociological principles is little more than a schematic view of history, in which five typical states take the place of Comte's three states. The fundamental motive power in progress, as well as the measure of progress attained, is found in the density and unification of population. From the standpoint of the five states the author undertakes to interpret the past, to criticise the present, especially the present condition of France, and to determine how far the future may be modified by conscious effort. The remarks on the present state of France as compared with England and Germany are just, and in some instances acute.

ARTHUR FAIRBANKS.

Voices of Freedom and Studies in the Philosophy of Individuality. By HORATIO W. DRESSER. New York and London, G. P. Putnam's Sons, 1900.—pp. v, 204.

It is only by a stretch of meaning that this book can be called philosophical. It is little better than a mass of platitudes, partly true and partly false, and is characterized by both shallowness and vagary. The author is an advocate of what he calls the "New Thought," the uncertain character of which is apparent from his book, but which he tells us is nearly related

to "Christian science" and theosophy. He is evidently one of those persons, very numerous in our time, who are dissatisfied with the systems of thought that have come down to us from former times, but who have not the power to work out a better system for themselves. He has skimmed the surface of many philosophies without settling on any one of them. The author of whom he seems most fond is Emerson, and he tells us that "to a lover of Emerson one need only say that the New Thought is an application of Emersonian philosophy to daily life and the problems of health and disease" (p. 26). Mr. Dresser has evidently had to pass through a period of struggle in order to attain such intellectual liberty as he now possesses, for he is perpetually harping on the theme that freedom is the goal of endeavor; and "that we may become free," he says, "it is well again and again to question every belief, every relation in life, asking if it still be worthy of acceptance" (p. 4). I should say, on the contrary, that so long as we are continually questioning all our beliefs, and every institution of life, we are not free at all in any sense that is worthy of a rational being.

JAMES B. PETERSON.

Die Entwicklung der Philosophie. Von F. VOLKMANN. Berlin, Fritz Rühe, 1899.—pp. 31.

In spite of Kant's *Prolegomena to every future Metaphysic* the development of philosophy in the last hundred years has shown lack of plan and much confusion. The brief essay before us endeavors to show that this is due to the Kantian system itself. By his radical distinction of phenomena and things-in-themselves Kant has thrown a distrust upon reason fatal to philosophy. The ground of this lies in his making philosophy dependent upon mathematics, and in the resultant application of the mathematical notions of zero and infinity to space, time, and reality in general. Two constituents may be discovered in experience, 'content' and 'connection.' The former gives the material for that which we call physics, the latter for that which we call metaphysics. It is the exclusive work of philosophy to determine man's spiritual connection with the world in which he lives. Duties arise when man, as a being endowed with reason, comes into connection with other beings. The peculiar character of reason consists in setting before itself a highest good which is always about to be, but never is reached. Other sciences without neglecting reason seek other sources of knowledge. Philosophy should construct its science on reason alone.

F. C. FRENCH.

Philosophie und Leben. Von ROBERT SCHELLWIEN. Leipzig, Alfred Janssen, 1898.—pp. 121.

"If philosophy is again to win meaning for mankind, she must come out from academic halls to the market place of life and speak to all." The aim of this essay is to set forth in untechnical language a view of the world

which may be characterized as at once idealism, ethicism and pantheism. The attempt is made, not so much to defend the view by argument, as to expound it in relation to space, time, cause, and the human spirit in its several aspects as logical, æsthetic, ethical, legal and religious. Many students of philosophy will be interested in this exposition of the author's world-view, but as an attempt to reach the popular mind with philosophical truth the essay can hardly be considered a success.

F. C. FRENCH.

The following books have also been received :

Ancient Ideals. By H. O. TAYLOR. New York, The Macmillan Company ; London, Macmillan & Co., Ltd., 1900.—pp. vii, 430.

The Conception of Immortality. By JOSIAH ROYCE. (Ingersoll lecturer for 1899.) Boston and New York, Houghton, Mifflin & Company ; Cambridge, The Riverside Press, 1900.—pp. 91.

Memory. By F. W. COLEGROVE. New York, Henry Holt & Company, 1900.—pp. xi, 369.

Joseph Glanvill. By F. GREENSLET. New York, The Columbia University Press, The Macmillan Company, agents, 1900.—pp. viii, 235.

The Distribution of Wealth. By J. B. CLARK. New York, The Macmillan Company ; London, Macmillan & Co., Ltd., 1899.—pp. xxviii, 445.

World Politics. By PAUL S. REINSCH. New York, The Macmillan Company ; London, Macmillan & Co., Ltd., 1900.—pp. xviii, 366.

The Gospel According to Darwin. By W. HUTCHINSON. Chicago, The Open Court Pub. Co.; for sale by Kegan Paul, Trench, Trübner & Co., Ltd., London, 1900.—pp. 241.

Imitation in Education. By J. N. DEAHL. Columbia University Contributions to Philosophy, etc.; New York, The Macmillan Company ; Berlin, Mayer and Müller, 1900.—pp. 103.

The Historical Development of School Readers and of Methods of Teaching Reading. By R. R. REEDER. Columbia University Contributions to Philosophy, etc.; New York, The Macmillan Company ; Berlin, Mayer and Müller, 1900.—pp. 92.

Die Analyse der Empfindung. Von E. MACH. Jena, Gustav Fischer, 1900.—pp. 244.

Das soziale und sittliche Leben erklärt durch die seelische Entwicklung. Von J. MARK BALDWIN ; übersetzt von R. RUEDEMANN. Leipzig, J. A. Barth, 1900.—pp. xv, 466.

Das Grundgesetz alles neuro-psychischen Lebens. Von J. PIKLER. Leipzig, J. A. Barth, 1900.—pp. xvi, 254.

Ueber die Anlage zur Mathematik. Von P. J. MÖBIUS. Leipzig, J. A. Barth, 1900.—pp. vii, 333.

Elemente der empirischen Teleologie. Von P. N. COSSMANN. Stuttgart, A. Zimmer (E. Mohrmann), 1899.—pp. 132.

L'expérience des peuples. Par A. COSTE. Paris, Félix Alcan, 1900.—pp. 648.

Socrate (Les grands philosophes). Par C. PIAT. Paris, Félix Alcan, 1900.—pp. 268.

Kant (Les grands philosophes). Par T. RUYSSEN. Paris, Félix Alcan, 1900.—pp. x, 391.

L'année philosophique. Par F. PILLON. Paris, Félix Alcan, 1900.—pp. 312.

La tristesse et la joie. Par G. DUMAS. Paris, Félix Alcan, 1900.—pp. 426.

Problèms de philosophie positive. Par G. DEGREEF. Paris, Schleicher Frères, 1900.—pp. 169.

Examen psychologique des animaux. Par P. HACHET-SOUPLET. Paris, Schleicher Frères, 1900.—pp. xvi, 160.

NOTES.

It has been decided to found at Paris the International Society of the Psychical Institute, for the purpose of obtaining the patronage and coördinating the assistance of all those who may be willing to further the progress of these studies. This Society will collect endowments, donations, annual subscriptions, etc., on the sole condition of employing them for the development of psychological science. The resources thus collected by the International Society of the Psychical Institute will consist of three classes of members: Founders, Donors, and Ordinary Members.

1. Founders will consist of members who subscribe 10,000 fr. or more.

2. Donors will consist of members who subscribe 1,000 fr. or more, or who pay an annual subscription of 100 fr. or more.

3. Ordinary Members: (*a*) Those who gave their adhesion to the project of the Institute at its first meeting. (*b*) Those who have been nominated by election at subsequent meetings.

The ordinary members will pay an annual subscription of 20 fr.

Mr. William Ritchie Sorley, who has occupied the Chair of Moral Philosophy in Aberdeen University during the past six years, has been appointed by the Board of Electors of Cambridge to the Knightbridge Professorship of Moral Philosophy in that University, rendered vacant by the resignation, through ill-health, of Professor Henry Sidgwick. Mr. Sorley, who is in his forty-fifth year, is a native of Selkirk. He studied at Edinburgh University, where he graduated in 1875 with first-class honors in philosophy, and shortly afterwards gained the Hamilton, Ferguson, and Shaw Fellowships. For three years he was assistant to Professor Campbell Fraser in logic and metaphysics. For two sessions he studied at Tübingen and Berlin, and subsequently at Trinity College, Cambridge, where he graduated as senior in the moral science tripos of 1882, and was elected a Fellow of Trinity in 1883. In 1887, Mr. Sorley was called to fill the chair at Cardiff vacated by the transference of Professor Seth to St. Andrews, and after seven years' work there he was appointed in 1894 to the Chair of Moral Philosophy in Aberdeen, rendered vacant by the death of Professor Fyfe. He is the author of a work entitled *The Ethics of Naturalism*.

The Rev. William Dexter Wilson, D.D., LL.D., died at Syracuse, New York, on July thirtieth. He was born in Stoddard, New York, in 1816. In 1838 he graduated from Harvard divinity school. From 1850 to 1868 he was professor at Geneva College (now Hobart). From 1868 to 1886 he was professor of moral philosophy at Cornell. Since the last mentioned date he has been an emeritus professor of Cornell University.

It is proposed to celebrate the seventieth birthday of Professor Wilhelm Wundt, which will occur on the 16th of August, 1902, by the publication of a *Festschrift* to which his former students are invited to contribute. The manuscript should be forwarded to Professor Külpe, Würzburg, not later than January 1, 1902.

Dr. Ethel Gordon Muir has resigned her position at Mt. Holyoke College to accept the professorship of philosophy in the Woman's College of Pennsylvania. The chair of philosophy thus made vacant at Mt. Holyoke has been filled by the appointment of Miss Ellen Bliss Talbot (Ph.D. Cornell).

Dr. Arthur H. Peirce, of Amherst, has been appointed associate professor in mental and moral science at Smith College, and R. B. Perry, Ph. D. (Harvard), has been made instructor in ethics and pedagogy in the same institution.

Oxford University has conferred its newly created D.Sc. degree upon Professor J. Mark Baldwin of Princeton University.

Professor Royce, of Harvard University, has been invited to give a course of lectures at Dublin University.

We give below a list of articles, etc., in the current philosophical journals:

THE PSYCHOLOGICAL REVIEW, VII, 4: *J. McKeen Cattell*, On Relations of Time and Space in Vision; *R. S. Woodworth* and *Edward Thorndike*, Judgments of Magnitude by Comparison with a Mental Standard; *A. H. Peirce*, A New Explanation for the Illusory Movements seen by Helmholtz on the Zöllner Diagram; *Mary Whiton Calkins*, Elements of Conscious Complexes. Discussion and Reports, Psychological Literature, New Books, Notes.

THE MONIST, X, 4: *Richard Garbe*, On the Voluntary Trance of Indian Fakirs; *Rev. William Weber*, Saint Paul and Apostolic Succession; *J. H. Leuba*, The Personifying Passion in Youth with Remarks on the Sex and Gender Problem; *T. J. McCormack*, On the Nature of Scientific Law and Scientific Explanation; *The Editor*, The Personality of Jesus and His Historical Relation to Christianity. Literary Correspondence, Criticisms and Discussions, Book Reviews.

INTERNATIONAL JOURNAL OF ETHICS, X, 4: *Mary A. M. Marks*, The Treatment of Subject Races; *H. E. S. Freemantle*, Liberty and Government; *J. S. Mackenzie*, The Source of Moral Obligation; *W. G. Everett*, The Relation of Ethics to Religion; *Henry Davies*, The New Psychology and the Moral Training of Children; *Morris Jastrow, Jr.*, The first International Congress of History of Religion. Discussions, Book Reviews.

THE NEW WORLD, No. 34: *K. C. Anderson*, The Deeper Issue in the Ritualistic Controversy in the Church of England; *W. Kirkus*, On Preach-

ing; *C. A. Allen*, The Christian Ideal; *R. M. Wenley*, Plutarch and His Age; *J. T. Bixby*, Religion and the Larger Universe; *W. McK. Bryant*, The Greek Games; *F. G. Peabody*, The Teaching of Jesus Concerning the Rich. Book Reviews.

MIND, No. 35: *G. E. Moore*, Necessity; *Mrs. S. Bryant*, The Double Effect of Mental Stimuli: A Contrast of Types; *C. S. Myers*, Vitalism (II); *A. K. Rogers*, The Absolute of Hegelianism; *G. J. Stokes*, Logical Theory of the Imaginary; *Miss E. E. C. Jones*, Dr. Ward's Refutation of Dualism; *H. Stewart*, The Doctrine of the Summum Bonum: A Criticism; Discussions, Critical Notices, New Books, Philosophical Periodicals, Notes.

ZEITSCHRIFT FUR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE, XXIII, 1 and 2; *F. Schumann*, Beiträge zur Analyse der Gesichtswahrnehmungen; *F. Kiesow* und *M. Nadoleczny*, Zur Psychophysiologie der Chorda tympani; *H. Munk*, Die Erscheinungen bei kurzer Reizung des Sehorgans. Review of Münsterberg's *Psychology and Life*. Recent Magazine Literature.

KANTSTUDIEN, V, 1: *M. Wartenberg*, Sigwarts Theorie der Kausalität im Verhältnis zur Kantischen; *E. von Hartmann*, Kant und der Pessimismus; *F. Medicus*, Ein Wortführer der Neuscholastik und seine Kantkritik; *A. Pfannkuche*, Der Zweckbegriff bei Kant; *H. Vaihinger*, Die Neue Kantausgabe; Kants Briefwechsel; *R. Richter*, Ein ungedruckter Fichtebrief; *A. Palme*, Ein Besuch Karamsins bei Kant; *E. Wille*, Über einige Testfehler in Kants Widerlung des Idealismus. Recent Literature, Notes.

REVUE PHILOSOPHIQUE, XXV, 7: *B. Bourdon*, La perception des mouvements par le moyen des sensations tactiles des yeux; *L. Dauriac*, Criticisme et monadisme; *G. Bos*, Les croyances implicites; *E. Blum*, Le mouvement pédologique et pédagogique. Current Literature, Philosophical Journals, Correspondence.

RIVISTA FILOSOFICA II, 3: *R. Mariano*, Religione e religioni; *G. Romano*, Gli studi storici in Italia allo stato presente in rapporto alla natura e all'ufficio della storiografia; *D. Jaja*, L'enigma della coscienza; *R. Bobba*, Appunti bibliografici intorno ad alcune opere contemporanee relative alla Filosofia di Aristotele. Reviews, Summaries, Notes, Contents of Foreign Philosophical Journals, Books received.